CT 12/82/01

NCI/ICRDB/CT12 82/01

PB82-938701

ICRDB CANCERGRAM

INTERNATIONAL CANCER RESEARCH DATA BANK

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/01

JANUARY, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy ***If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:***

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

A LIMITED NUMBER OF THE
COMPILATION OF EXPERIMENTAL
CANCER THERAPY PROTOCOL
SUMMARIES, 1981, ARE AVAILABLE.
FOR A COMPLIMENTARY COPY,
CONTACT ICRDB PROGRAM,
WESTWOOD BLDG., RM. 10A18,
BETHESDA, MD. 20205

In this issue:

- **DIAGNOSIS.......... 1-16**
- **CHEMOTHERAPY.......... 17-18**
- **RADIOTHERAPY.......... 19-21**
- **SURGERY.......... 22**
- **CASE REPORTS.......... 23-24**
- **SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY.......... 25**
- **REVIEWS.......... 26-27**

NEWARK PUBLIC LIBRARY
MAR 2 1982
U. S. GOVT. PUBS.
DEPOSITORY 376

DIAGNOSIS

1. MALIGNANT FIBROUS HISTIOCYTOMA OF BONE: A NEW TUMOR?.

Freyschmidt J, Ostertag H, Majewski A, Korvalian Z
Institut fur Klinische Radiologie, Medizinische Hochschule Hannover, Hannover, W. Germany
ROEFO; 135(1):1-12 1981

One hundred fifty-seven previously reported and four additional cases of malignant fibrous histiocytoma (MFH) were studied with respect to their localization, biological, clinical, and radiological characteristics, and prognosis. MFH occurred more often in men (60%) than in women (40%). It was predominant in women in the second and third decades of life, and in men in the fourth through sixth decades. Tumors occurred most often in the femur and tibia (63%), less often in the humerus, os ilium, skull, and ribs. Symptoms included localized pain (70-80%), localized swelling (30%), and palpable

HE 20. 3173/2:

tumors (45-50%). Spontaneous fractures occurred in 20% of the cases. General x-ray characteristics were similar to those of malignant lymphoma of bone and of metastases from other sources. MFH was distinguishable from osteosarcoma by age at onset; by the presence of only osteolytic zones, compared to osteolytic and sclerotic zones in osteosarcoma; and by calcification of the periosteum. Distinguishing between MFH and osteosarcoma was significant for treatment. Distinguishing MFH from fibrosarcoma was apparently not clinically justified. (53 Refs) (In GER)

2. THE INDICATIONS FOR AND LIMITATIONS OF BONE SCINTIGRAPHY IN OSTEOGENIC SARCOMA: A REVIEW OF 55 PATIENTS.

McKillop JH, Etcubanas E, Goris ML
(c/o Goris) Div. Nuclear Medicine, Stanford Univ. Medical Center, Stanford, CA, 94305
Cancer; 48(5):1133-1138 1981

The value of radioisotope bone scanning at the time of presentation and serially during follow-up has been evaluated in 55 patients with biopsy-proven osteogenic sarcoma. Many of the patients studied were treated with adjuvant chemotherapy. Bone metastases were detected at presentation in only one patient and in a second patient, proximal extension of the primary tumor not evident on radiographs was demonstrated by the radioisotope technique. During follow-up, 20 patients experienced bone metastases and each had an abnormal bone scan. Eleven of these patients were asymptomatic for bone metastases at the time the scan became abnormal. Seven patients experienced bone metastases as their first site of tumor recurrence. The detection rate for soft tissue metastases was low, but the scan indicated stump recurrence in three patients. Although the yield is small, bone scanning is justified at presentation because the results may profoundly alter the management. During follow-up, routine bone scans are indicated in all patients, whether they have symptoms or not. (Author abstract) (13 Refs)

3. FLORID REACTIVE PERIOSTITIS OF THE TUBULAR BONES OF THE HANDS AND FEET. A BENIGN LESION WHICH MAY SIMULATE OSTEOSARCOMA.

Spjut HJ, Dorfman HD
Dept. Pathology, Baylor Coll. Medicine, Houston, TX, 77030
Am J Surg Pathol; 5(5):423-433 1981

Twelve cases of florid periostitis are described. Symptoms included swelling, sometimes with redness, tenderness, and pain. Lesions contained osteoid, bone, cartilage, and proliferating fibrous tissue, and were usually associated with the periosteum; they resembled malignant neoplasms, but were distinguished by uniformity of osteoblasts in the osteoid zone, intact cortex, lack of bone destruction, and sometimes maturation of bone at the periphery. Local excision is apparently an adequate treatment. The risk of recurrence is small. (7 Refs)

4. RADIOLOGIC MANIFESTATIONS OF OSTEOBLASTOMA (A REPORT OF 19 CASES).

Zhou W, Zhang T, Wang Z, Gao Z, Kiu Z
Dept. Radiology, Second Affiliated Hosp., Second Military Medical Coll., People's Republic of China
Zhonghua Fangshexue Zazhi; 15(1):56-59 1981

Osteoblastoma is a rare bone tumor which accounts for about 1% of primary bone tumors. Radiologic findings are described for 19 cases (9 males, 10 females; aged 6-38 yr). Most of the cases in this series occurred in the limbs (13 cases, including 2 cases occurring in their soft tissues) and cervical spine (3 cases). Three basic types of x-ray manifestations were observed, namely, 'cystic transparent region', 'scattered-cloudy changes', and 'calcified or ossified.' The nomenclature, pathology, x-ray manifestations and classification problems are discussed. (12 Refs) (In CHI)

5. LEIOMYOSARCOMA OF SOFT TISSUE: A CLINICOPATHOLOGIC STUDY.

Wile AG, Evans HL, Romsdahl MM
(c/o Evans) Dept. Pathology, M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
Cancer; 48(4):1022-1032 1981

The case records and histologic material of 28 patients with leiomyosarcoma of soft tissue treated at M D Anderson Hospital between 1948 and 1975 were reviewed. These included patients in whom the tumors arose in the retroperitoneum (16), major blood vessels (3), and other soft-tissue sites, collectively designated peripheral soft tissue (9). Follow-up was complete in all cases. A striking preponderance of female patients was observed in the group with retroperitoneal tumors, in contrast to the male preponderance in the vascular and peripheral soft tissue tumor groups. Tumor size and location were the major prognostic factors; large size (greater than or equal to 5 cm) and retroperitoneal origin were associated with a much poorer clinical outcome than smaller size (less than 5 cm) and origin elsewhere than the retroperitoneum. These factors were related, since all retroperitoneal tumors were large. Microscopic appearance did not correlate significantly with clinical course. The clinical approach to these tumors is discussed in light of the findings of this study. (Author abstract) (9 Refs)

6. CLINICAL PRESENTATION AND NATURAL HISTORY OF BENIGN AND MALIGNANT MESOTHELIOMA.

Antman KH
Sidney Farber Cancer Inst., 44 Binney St., Boston, MA, 02115
Semin Oncol; 8(3):313-320 1981

Benign mesothelioma occurs more often in women than men, there appears to be no association with exposure to asbestos, thoracotomy is required for both diagnosis and treatment, and a solitary lesion is generally cured by wide local excision. Most malignant mesotheliomas are pleural. Three histologic subtypes are epithelial, sarcomatous, and mixed. More peritoneal malignant mesotheliomas are reported in workers exposed to asbestos. Approx two-thirds of patients are between 50 and 70 yr and most series document a ratio of men:women of 2:1 to 5:1. Symptoms of pleural mesothelioma include shortness of breath or a dull a ching nonpleural chest pain of insidious onset, hemoptysis, wt. loss, or cough. A large unilateral pleural effusion is usually found. The importance of an adequate biopsy is emphasized. Sputum cytology and bronchoscopy are usually negative. Electron microscopy is useful for diagnosis. The clinical course of malignant mesothelioma is described. Pericardial and peritoneal mesotheliomas are discussed. A staging system for pleural mesothelioma is outlined. Median survival of patients with malignant mesothelioma ranges from 2-12 mo after diagnosis. Patients presenting with Stage I disease, those with indolent disease (symptoms for greater than 6 mo before diagnosis) and women survive significantly longer. Autopsy findings are reviewed. (44 Refs)

7. IMMUNOPEROXIDASE LOCALIZATION OF SECRETORY COMPONENT IN REACTIVE MESOTHELIUM AND MESOTHELIOMAS.

Ernst CS, Brooks JJ
Hosp. Univ. Pennsylvania, Philadelphia, PA, 19104
J Histochem Cytochem; 29(9):1102-1104 1981

Immunoperoxidase localization of the secretory component (SC) of Ig A was undertaken on paraffin-embedded tissue to investigate its usefulness in differentiating epithelial from mesothelial neoplasms. Epithelial cells, but not mesothelial cells, have been previously reported to contain SC, which may be involved in the intraepithelial transport of secretory IgA. In this study we report, for the first time, focal but unequivocal staining for SC in reactive mesothelium and mesotheliomas (10/16). Reactivity was not associated with any histologic subtype of malignant mesothelioma although staining was usually seen in the 'epithelial' type. The significance in terms of possible mesothelial secretory IgA transport is discussed. (Author abstract) (13 Refs)

8. PATHOLOGY OF HUMAN MALIGNANT MESOTHELIOMA.

Suzuki Y
Environmental Sciences Lab., Dept. Community Medicine, Mount Sinai Sch. Medicine, City Univ. New York, One Gustave Levy Place, New York, NY
Semin Oncol; 8(3):268-282 1981

Diagnostic criteria are reviewed for malignant mesothelioma (MMT) with respect to gross anatomical observations, histology, histochemistry, electron microscopy, and possibly biochemistry of the fluid and cytology. The presence of MMT is suggested by the absence of obvious primary tumor in any of the various organs coupled with a diffuse mesothelial tumor. Histologic evaluation is the most important method for diagnosis of MMT with open biopsy the preferred method for obtaining diagnostic material. Tumors are classified as epithelial, biphasic, or fibrous. Histochemical detection of hyaluronic acid has been proposed for the diagnosis of MMT. The exclusion of intracellular mucin is essential for the diagnosis of MMT. The use of electron microscopy combined with specific cytochemical staining may make cytologic preparation sufficient for diagnosis. The electron microscopic appearance of all three cell types in effusions is reviewed. Before electron microscopy, the malignancy should be confirmed with the cell block sections using light microscopy. The electron microscopic differential diagnosis of MMT from metastatic tumors is possible. The pathogenesis of MMT is discussed with respect to etiological factors and the histogenesis of MM is reviewed. (75 Refs)

9. ULTRASONOGRAPHY AND COMPUTED TOMOGRAPHY OF RETROPERITONEAL LIPOSARCOMA.

Yiu-Chiu V, Chiu L
Dept. Radiology, Univ. Iowa Hosp. and Clinics, Iowa City, IA, 52242
CT; 5(2):98-109 1981

The computed tomographic (CT) and ultrasonographic patterns of retroperitoneal liposarcoma are described and illustrated, and four representative case histories are presented. In addition, the case history of a patient with a steroid-induced benign retroperitoneal lipomatosis is included for comparison. All patients presented with increasing abdominal girth and few other symptoms; in the first two patients, the tumors were coincidental findings when the patients were admitted for other medical problems. Bowel, kidney, ureter, or vascular displacement occurred in one or more patients. The tumor in patient 1 had extended into the obturator foramen and into the right inguinal hernia sac in patient 2. In patient 2, the CT pattern of the entire tumor was a fatty, low-attenuation mass with enhancing intervening thick, irregular, fibrous strands traversing it. In patients 1 and 4, this pattern was associated with a soft tissue component, and in patient 3 calcification was observed within the soft tissue mass. The abdominal CT scans of patient 5, who had benign lipomatosis, showed diffuse fatty areas throughout the abdomen. At ultrasonography analysis, liposarcoma presented as a homogeneous, densely hyperechoic mass (patient 2), a hyperechoic mass intermixed with hypoechoic or anechoic areas (patients 1 and 4), or as a homogeneous, hypoechoic or anechoic mass (patient 3). (18 Refs)

10. EVALUATION OF RETROPERITONEAL LIPOSARCOMA WITH COMPUTED TOMOGRAPHY.

Kreel L, Bydder GM
Dept. Radiology, Newham District, Queen Mary's Hosp. of the East End, West Ham Lane, London E15, England
CT; 5(2):111-116 1981

The clinical and computed tomography (CT) features of seven new cases of retroperitoneal liposarcoma and two previously reported cases are reviewed. In each case, the lung bases, abdomen, and pelvis were scanned with an EMI CT5005 whole body scanner. There was a wide range in tumor size. Bowel and kidneys were frequently displaced, and muscle infiltration was common. Tumor attenuation values varied between-102 and +22 HU. The mean value for nonhomogeneous tumors was higher than that for homogeneous tumors. However, homogeneous tumors could not be distinguished from normal adipose tissue on the basis of their attenuation values alone. Three patients were of particular interest. In one patient, calcification occurred following radiotherapy-induced tumor regression. Two patients had marked pararenal fascia thickening, which accompanied liposarcoma arising in the perirenal space. (9 Refs)

11. COMPARISON OF CERTAIN CLINICO-ROENTGENOMORPHOLOGICAL FEATURES IN SOFT TISSUE LIPOSARCOMAS.

Vesnin AG, Puchkov YuG, Yakovlev GYa
N. N. Petrov Res. Inst. Oncology of USSR Ministry of Health, Leningrad, USSR
Vopr Onkol; 27(6):6-12 1981

The clinicoroentgenological data in 45 cases (20 males and 25 females, av age 50.3 yr) of soft tissue liposarcomas, histologically subdivided into 28 myxoid, 12 polymorphic and 5 round-cell tumors were compared. The mean case history was 3.2 yr (3.8 yr - for myxoid and 2.2 yr for polymorphic and round-cell liposarcomas). In 95.6% of cases, tumor sites were in the musculare of the extremities, most frequently in the legs. Tumors were rather large in size (av 16.5 cm). Myxoid tumors developed slowly, causing no pain. The radiograms of these tumors showed multiple tumor nodes, reduced shadow density, structural heterogeneity, distinct contours, infrequent cutaneous infiltration and secondary changes in bones. Signs of malignancy were indistinct in angiograms. Clinically and roentgenologically, round-cell liposarcomas resembled most other types of soft tissue sarcomas. Polymorphic tumors had many features in common both with myxoid and round-cell neoplasms. (Author abstract) (12 Refs) (In RUS)

12. SPINDLE-CELL LIPOMA: A CLINICAL LIGHT- AND ELECTRON-MICROSCOPICAL STUDY.

Bolen JW, Thorning D
Hosp. Pathology RC-72, B-218, Univ. Hosp., Seattle, WA, 98195
Am J Surg Pathol; 5(5):435-441 1981

Clinical, histological, and ultrastructural details of five spindle-cell lipomas are presented. The lipomas were from males 47-67 yr of age; four were located in sc tissues of the posterior neck (2) and upper back (2), and one occurred behind the left ear. In follow-up of 1 yr or less, no recurrence has been observed. The lesions were well-circumscribed sc masses, yellow to grayish-yellow and from 2.0-4.0 cm in diameter. Histological features are described in detail; they revealed a spectrum of varying growth patterns. Spindle cells comprised varying proportions of the tumor mass. Mature fat was replaced partially or totally by a uniform population of spindled cells. The growth pattern showed some features of schwannomas and neurofibromas. Ultrastructural findings were similar to those previously described and showed two distinct populations of tumor cells: a spindled non-fat-storing mesenchymal cell and a mature lipocyte. It is suggested that the spindle cell is analogous to the stellate mesenchymal cell of the primitive fat lobule. (12 Refs)

13. LIPOMATOUS TUMORS OF THE ABDOMINAL CAVITY: CT APPEARANCE AND PATHOLOGIC CORRELATION.

Wallgore MP, Stephens DH, Soule EH, McLeod RA
(c/o Stephens) Dept. Diagnostic Radiology, Mayo Clinic and Mayo Foundation, Rochester, MN, 55905
AJR; 137(3):539-545 1981

Twenty patients with pathologically confirmed extraparenchymal intraabdominal lipomatous tumors, including two lipomas, two cases of diffuse infiltrating lipomatosis, and 16 liposarcomas, were examined by computed tomography (CT). The CT appearance of these tumors closely correlated with their gross and microscopic pathologic anatomy. Distinctive CT features differentiated simple lipomas from diffuse infiltrating lipomatosis and from liposarcomas. The densities of these tumors, including the variable densities of liposarcomas, were explained by their tissue composition. Lipomas, diffuse infiltrating lipomatosis, and lipogenic liposarcomas were predominantly of fat density, whereas myxoid liposarcomas were of a higher range of densities. Liposarcomas often contained more than one type of tumor tissue, resulting in masses of distinctly different densities coexisting within the same tumor. CT accurately depicted the presence, location, and size of the tumors and provided information about their relation to adjacent structures. (Author abstract) (11 Refs)

14. FACTOR VIII IN KAPOSI'S SARCOMA.

Guarda LG, Silva EG, Ordonez NG, Smith JL
(c/o Ordonez) Dept. Pathology, M. D. Anderson Hosp. and Tumor Inst., Texas Medical Center, Houston, TX, 77030
Am J Clin Pathol; 76(2):197-200 1981

The immunoperoxidase technic was applied to 15 skin lesions of Kaposi's sarcoma to localize factor VIII-related antigen. Factor VIII-related antigen serves as a tissue-specific marker for endothelial cells. Positive staining was observed in all cases. These findings support the endothelial origin of the lesion of Kaposi's sarcoma. (Author abstract) (18 Refs)

15. ELECTRON MICROSCOPY IN THE DIAGNOSIS OF MALIGNANT SCHWANNOMA.

Taxy JB, Battifora H, Trujillo Y, Dorfman HD
Dept. Pathology, Johns Hopkins Hosp., 600 North Wolfe St., Baltimore, MD, 21205
Cancer; 48(6):1381-1391 1981

Fifteen malignant schwannomas were examined by light and electron microscopy. Five tumors arose in patients with neurofibromatosis and five were contiguous with a peripheral nerve (Group I). Five tumors met neither of these generally accepted diagnostic criteria but were light microscopically seen as compatible with malignant schwannoma when examined under light microscope (Group II). In the better differentiated areas of Group I leions, long, overlapping, tightly packed cytoplasmic processes were parallel to homogeneous flocculent material, occasionally assuming a linear appearance suggesting basal lamina. In Group II, similar cytoplasmic processes were present but the extracellular material was less extensive and had a less obvious relationship to the plasma membrane. In neither group were fine intracytoplasmic filaments pr ominent. Malignant schwann cells are seldom as ultrastructurally differentiated as their benign counterparts. Nevertheless, within the context of well-studied light microscopy and the sampling error inherent in ultrastructural examination, electron microscopy can support the diagnosis of malignant schwannoma. (Author abstract) (16 Refs)

16. CURRENT CONCEPTS IN THE DIAGNOSIS OF HUMAN SOFT TISSUE SARCOMAS.

Stern R
Dept. Pathology, Univ. California Hosp., Univ. California, San Francisco, San Francisco, CA, 94143
Hum Pathol; 12(9):777-781 1981

Studies of the stroma of human soft tissue sarcomas may provide a new classification scheme for these tumors. Immunofluorescence microscopy using antisera directed against purified stromal components, particularly against type specific collagens, may become an important adjunct for the surgical pathologist in the diagnosis of these tumors. (Author abstract) (35 Refs)

CHEMOTHERAPY

17. CHEMOTHERAPY IN ADVANCED SARCOMAS.

Bierbaum W, Bremer K, Firusian N, Higi M, Niederle N, Scheulen ME, Schmidt CG, Seeber S
Innere Klinik und Poliklinik (Tumorforschung), Westdeutsches Tumorzentrum, Klinikum Essen, Hufelandstr. 55, 4300 Essen 1, W. Germany
Dtsch Med Wochenschr; 106(37):1181-1185 1981

Forty-three patients with metastasizing sarcomas were treated with a combination of either vincristine, adriamycin and cis-platinum(II)diammine-dichloride (cis-platinum) (n = 21) or ifosfamide and cis-platinum at 3 wk intervals in each case. Ten patients responded to the first combination and 9 to the second combination with objective tumor regression. Particularly the latter result is remarkable since 16 of the 22 patients had already been pretreated with combinations containing adriamycin. Obviously the combination of ifosfamide and cis-platinum is a promising alternative in metastasizing sarcomas of the bones and soft tissue, especially if the CYVADIC combination - which is often regarded as standard treatment - remained unsuccessful. This has no bearing on additional surgical measures or on radiotherapy which may be necessary in some patients. (Author abstract) (25 Refs) (In GER)

18. CHEMOTHERAPY IN THE TREATMENT OF MALIGNANT MESOTHELIOMA.

Aisner J, Wiernik PH
Baltimore Cancer Res. Center, Univ. Maryland Hosp., 22 S. Greene St., Room 9-1004, Baltimore, MD, 21201
Semin Oncol; 8(3):335-343 1981

The role of chemotherapy alone, or in combination with other modalities for the treatment of malignant mesothelioma (MMT) are reviewed. One of the major difficulties in assessing the antitumor activity of various agents in MMT, particularly pleural MMT, has been the lack of methods to precisely measure the extent of disease. New techniques that may permit a relatively accurate assessment of MMT tumor nodules within the pleural space are computed tomography and the fiberoptic device. With both methods direct visualization of lesions within the pleural space can be done. The most active single agent against MMT is doxorubicin, (DOX) with 16/36 patients responding and 4/36 achieving stabilization. No systemic testing of new agents has been conducted in patients with MMT. Since DOX appears to be the single agent with the highest level of activity in MMT, various combinations including DOX have been tested. Most of these have resulted in at least some success; however, consistent results were not found. The stage and histology of the disease should be determined before therapy is begun. Alternatives to radical surgery may include instillation of radioactive colloidal substances, with or without external beam radiotherapy and with and without chemotherapy. Radiosensitizers might help achieve local control. Some form of systemic therapy is necessary. Chemotherapeutic agents with definable activity must be identified before better mesothelioma treatment can be devised. (87 Refs)

RADIOTHERAPY

19. MESOTHELIOMA - THE ROLE FOR RADIATION THERAPY.

Brady LW
The Hahnemann Medical Coll. and Hosp. of Philadelphia, Two-thirty North Broad St., Philadelphia, PA, 19102
Semin Oncol; 8(3):329-334 1981

Experience with radiotherapy and its potential role in the overall management of patients with mesothelioma are reviewed. Pleural mesothelioma has been treated by surgery, radiation therapy, radioactive colloidal compound instillation, or combinations of radiation and chemotherapy and radiation, surgery, and chemotherapy. The role of surgery for cure is unclear, while palliative surgery might improve the quality of life by limiting the reaccumulation of pleural fluid or by the relief of pain. The entire hemithorax can be treated with a significant dose of radiation if vital normal tissues are shielded producing a definite objective response of the tumor and long-term control. Radioactive colloidal compound instillation is best used when the disease is still in the stage of small nodules with a predominance of pleural effusion. Doxorubicin appears to be the most promising chemotherapeutic agent for use with radiation therapy. A tolerable surgical procedure may be used to reduce the bulk of tumor allowing for a smaller dose of radiotherapy to achieve local control. Chemotherapy can then be used to treat residual disease. Treatment of primary mesothelioma of the peritoneum might include surgery to establish the diagnosis, followed by ip placement of radioactive colloid and abdominal radiotherapy. Intermittent combined chemotherapy would be used for long-term management of the disease. (42 Refs)

20. COMPUTERIZED TOMOGRAPHY SCANNING AND THE PLANNING OF HIGH-DOSE RADIOTHERAPY FOR PLEURAL MESOTHELIOMA: A REPORT OF FIVE PATIENTS.

Bricout PB, Engler MJ
Dept. Radiation Medicine, Univ. Hosp., Boston Univ. Medical Center, 75 East Newton St., Boston, MA, 02118
Int J Radiat Oncol Biol Phys; 7(6):821-826 1981

Computerized tomography (CT) scanning was used as an adjunct to radiotherapy planning in five men with pleural mesothelioma treated by a lung-sparing external beam irradiation technique. C-shaped fields of 42-millivolt photon beams from a betatron provided coverage of the apical, mediastinal, and diaphragmatic pleura; eccentrically rotating photon beams (shell fields) irradiated the parietal pleura. Dimensions of the C-shaped fields and shell parameters were obtained from CT scans and orthogonal radiographs. Two patients received the shell irradiation as a 2,500 rad boost following 4,000-5,000 rad from three fixed electron beams and L-shaped opposing photon fields. The three patients who were treated by the shell technique alone received 5,000 rad in 25 fractions over both C-shaped and shell fields. The only patient who responded to treatment is alive with no evidence of disease 29 mo following treatment. Radical radiotherapeutic techniques alone are not thought sufficient to control pleural mesothelioma. (20 Refs)

21. FUNCTIONAL GROUPS OF LYMPHOCYTES AND EFFICACY OF RADIOTHERAPY IN PATIENTS WITH OSTEOGENIC SARCOMA OF THE EXTREMITIES.

Sokolova II, Kuznetsova IP, Repina FF, Boiko AV
P. A. Hertsen Res. Oncological Inst., Moscow, USSR
Med Radiol (Mosk); 26(7):27-32 1981

The blast-transformation (BT) index and the count of acid phosphatase (AP)-positive lymphocytes were determined in 31 patients (22 men, 9 women, 12-32 yr old) with osteogenic sarcoma of the extremities. Distant gamma therapy (1,800-2,000 rads/wk, total dose 6,000-10,000 rads) produced complete regression of the soft tissue tumor component in 22 patients and partial regression in 4; radiotherapy was ineffective in 5 patients. Within 6 mo after termination of the radiotherapy, 13/31 patients developed lung metastases. The pretreatment ratio of (BT-,AP-) and (BT-,AP+) lymphocytes was found to determine the prognosis: the patients with the ratio of 0.9 survived for greater than 1 yr, while the patients with the ratio of 3.8 died within the first 1 yr of the treatment. (12 Refs) (In RUS)

SURGERY

22. CHORDOMA OF THE CERVICAL SPINE.

Murali R, Rovit RL, Benjamin MV, Sundaresan N, Odom GL
Dept. Neurosurgery, St. Vincent's Hosp. and Medical Center, 153 West 11 St., New York, NY
Neurosurgery; 9(3):253-256 1981

Eight cases of chordoma of the cervical spine, a rare tumor, are described. Combination of osteosclerosis and lysis, multiple vertebral involvement, and pre- or paracervical soft tissue mass were characteristic. Radiographic indications were minimal when neck pain was the only symptom. Tumors were partially excised using an anterior approach. The limiting factor to complete excision of the tumor was its dissemination in the epidural space and along the nerve root sheath. Bone grafts provided stability after removal of cervical bone. Radiation doses of 4,500 and 6,000 rad were given in two cases. Two patients died, one was lost to follow-up, and five are alive and well. Survival time has been as long as 46 yr after initial diagnosis. Repeated surgery using the anterior approach seems to be successful in palliating symptoms, although no cures were obtained. (7 Refs)

CASE REPORTS

23. OSTEOSARCOMA ARISING IN HETEROTOPIC OSSIFICATION OF DERMATOMYOSITIS: CASE REPORT AND REVIEW OF THE LITERATURE.

Eckardt JJ, Ivins JC, Perry HO, Unni KK
Section Publication, Mayo Clinic, Rochester, MN, 55905
Cancer; 48(5):1256-1261 1981

A patient with dermatomyositis developed malignant transformation of the benign interfascial heterotopic bone. This patient had classic childhood dermatomyositis at the age of 3 yr, and the disease was arrested after a one-yr course of corticosteroid therapy. Extensive sc calcinosis cutis and deep interfascial calcinosis were the residua of the disease. Twenty-eight yr later, the patient developed a high-grade osteosarcoma within the benign intermuscular heterotopic calcification and ossification that had been previously documented at the age of 8 yr by a roentgenogram and at the age of 16 yr by biopsy. This case represents the first report of the association of osteosarcoma and dermatomyositis, and possibly the first well-documented case of malignant transformation of benign heterotopic bone. (Author abstract) (20 Refs)

24. SYMPTOMATIC RENAL ANGIOMYOLIPOMA.

Rao PN, Osborn DE, Barnard RJ, Best JJ
Dept. Urology, Withington Hosp., West Didsbury, Manchester M20 8LR, England
Br J Urol; 53(3):212-215 1981

Two cases of symptomatic renal angiomyolipoma not associated with tuberous sclerosis are presented. The clinical and radiological features, the pathology and the management of these rare but well documented tumors are briefly discussed. They pose problems in diagnosis and controversy still exists regarding their management. Recent radiological techniques such as CT may help in the diagnosis. When conservative surgery is not possible, or when an adenocarcinoma cannot be confidently excluded, nephrectomy should be performed. (Author abstract) (9 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

25. PREVALENCE OF ASBESTOS RELATED LUNG DISEASE AMONG EMPLOYEES IN NON-ASBESTOS INDUSTRIES.

Young I, West S, Jackson J, Cantrell P
Div. Occupational Health and Radiation Control, Health CXmmission New South Wales, P.O. Box 163, Lidcombe New South Wales 2141, Australia
Med J Aust; 1(9):464-467 1981

Employees from two non-asbestos industries were examined to assess the prevalence of asbestos-related lung disease. Of the 214 employees, 1 suffered from a malignant mesothelioma of the pleura and in 13 (6.1%), pleural plaques were diagnosed radiologically. The plaques were symptomless and not associated with any disturbance in respiratory function. The sole source of asbestos fiber in one factory was the asbestos insulation surrounding steam and hot water pipes similar to that found throughout industry. Exposure occurred as the result of the way in which this insulation has been handled routinely in industry by people who have commonly been unaware either of their exposure or of its significance. In the second factory there was the possibility of additional exposure originating from a neighboring industry that was a major consumer of asbestos. The results suggest that maintenance workers may be particularly at risk and that the presence of pleural plaques may be under-reported in the absence of a history of asbestos exposure to direct attention towards them. The presence of pleural plaques has important consequences for the individual and for others who have shared the work environment. (Author abstract) (19 Refs)

REVIEWS

26. THE MYXOID TUMORS OF SOMATIC SOFT TISSUES.

Mackenzie DH
Dept. Histopathology, Westminster Medical Sch., London, S.W.1, England
Am J Surg Pathol; 5(5):443-458 1981

Myxoid tumors are reviewed. They occur in superficial and deep soft tissue and owe their appearance and bulk to the accumulation of mucopolysaccharide material or, rarely, edema. The tumors may be chondroblastic, fibroblastic, lipoblastic, myoblastic, or neurogenic. Benign myxoid tumors include the myxoma, myxoid tumors of nerve sheath origin, myxoid chondroma, myxoid lipoma, and lipoblastoma. Among malignant myxoid tumors are myxoid liposarcoma, embryonal rhabdomyosarcoma, myxoid malignant fibrous histiocytoma, extraskeletal myxoid chondrosarcoma, myxofibrosarcoma, and chordoid sarcoma. The naked-eye and microscopic appearances of these tumors are described. Diagnostic possibilities may also include pseudotumors such as bursae, ganglia, cutaneous mucinoses, fasciitis, and myxoid cysts. Histochemistry makes only a limited contribution to diagnosis. Alcian blue staining of these tumors with and without hyaluronidase pretreatment has been examined; staining in the presence of increasing $MgCl_2$ concentrations has been found useful in the identification of tumors of chondroblastic origin. A correct diagnosis of these tumors depends on accurate and detailed clinical information and the provision of adequate material for histopathological examination. (49 Refs)

27. MALIGNANT MESOTHELIOMA IN CHILDREN: REPORT OF SEVEN CASES AND REVIEW OF THE LITERATURE.

Brenner J, Sordillo PP, Magill GB
(c/o Sordillo) 1275 York Ave., New York, NY, 10021
Med Pediatr Oncol; 9(4):367-373 1981

Seven children with malignant mesothelioma have been seen at Memorial Hospital since 1953. In six, the origin was at the pleura and in one at the peritoneum. None of the patients related a history of exposure to asbestos. Two patients lived more than five yr. The other five patients died within two yr of the diagnosis. Distant metastases were seen in four of the patients, including three who had metastases to brain. Surgery or radiotherapy were not effective in controlling the disease in most of the patients. One patient had a complete response to a combination of Adriamycin, cyclophosphamide, and vincristine and has remained free of disease for 5 1/2 yr. The seven cases are reviewed, as are the other 42 cases of malignant mesothelioma in children reported in the literature. (Author abstract) (21 Refs)

AUTHOR INDEX WITH CITATION NUMBERS

Aisner J. 18
Antman KH. 6
Barnard RJ. 24
Battifora H. 15
Benjamin MV. 22
Best JJ. 24
Bierbaum W. 17
Boiko AV. 21
Bolen JW. 12
Brady LW. 19
Bremer K. 17
Brenner J. 27
Bricout PB. 20
Brooks JJ. 7
Bydder GM. 10
Cantrell P. 25
Chiu L. 9
Dorfman HD. 15
Dorfman HD. 3
Eckardt JJ. 23
Engler MJ. 20
Ernst CS. 7
Etcubanas E. 2
Evans HL. 5
Firusian N. 17
Freyschmidt J. 1
Gao Z. 4
Goris ML. 2
Guarda LG. 14
Higi M. 17
Ivins JC. 23
Jackson J. 25
Kiu Z. 4
Korvalian Z. 1
Kreel L. 10
Kuznetsova IP. 21
Mackenzie DH. 26
Magill GB. 27
Majewski A. 1
McKillop JH. 2
McLeod RA. 13
Murali R. 22
Niederle N. 17
Odom GL. 22
Ordonez NG. 14
Osborn DE. 24
Ostertag H. 1
Perry HO. 23
Puchkov YuG. 11
Rao PN. 24
Repina FF. 21
Romsdahl MM. 5
Rovit RL. 22
Scheulen ME. 17
Schmidt CG. 17
Seeber S. 17
Silva EG. 14
Smith JL. 14
Sokolova II. 21
Sordillo PP. 27
Soule EH. 13
Spjut HJ. 3
Stephens DH. 13
Stern R. 16
Sundaresan N. 22
Suzuki Y. 8
Taxy JB. 15
Thorning D. 12
Trujillo Y. 15
Unni KK. 23
Vesnin AG. 11
Waligore MP. 13
Wang Z. 4
West S. 25
Wiernik PH. 18
Wile AG. 5
Yakovlev GYa. 11
Yiu-Chiu V. 9
Young I. 25
Zhang T. 4
Zhou W. 4

CANCER LINE

More Than Just A Fancy Name

Mention CANCERLINE to your librarian and the world's foremost collection of cancer information is at your disposal. With the help of this computerized data system, you can obtain information on the following:

Cancer Literature

The literature date base, **CANCERLIT**, allows you to survey more than 3,000 biomedical journals for information on your topic of interest. Your search will also alert you to meeting proceedings, monographs, and books published in that area. Informative abstracts averaging 200 words are provided with each citation;

Current Cancer Research

The data base **CANCERPROJ** allows you to retrieve descriptions of current work in any cancer research area. The descriptions, which state research objective, methodology, and experimental results, are supplied for projects underway in 77 countries around the world.

Cancer Therapy Protocols

The **CLINPROT** section of CANCERLINE is designed primarily for clinicians. It provides detailed summaries of currently active experimental protocols for any cancer site, agent, or type.

Ask your biomedical librarian about CANCERLINE.
CANCERLINE is sponsored by the International Cancer Research Data Bank—a program of the National Cancer Institute.

CANCERLINE

Keep Up with the Cancer Literature

Each Month You Can Receive Abstracts Covering Your Specialty Area

- This convenient service — called Auto SDI* — is as near as your nearest biomedical library. Discuss your research interests with the librarian who will design an appropriate search strategy.
- Abstracts of the latest published literature are searched automatically each month and those related to your interests are delivered to you on a regular basis.
- The abstracts you receive are selected from more than 4,000 monthly entries made into CANCERLIT — the extensive cancer literature data base of the National Cancer Institute.

Talk With Your Librarian About the Auto SDI Service TODAY.

*Auto SDI stands for Automatic Selective Dissemination of Information. It is a service provided to you, at minimal cost, by the International Cancer Research Data Bank (ICRDB) — a part of the National Cancer Institute.

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addresses and $3 each for other addresses. An NTIS deposit account is required. For a list of subject categories available and ordering information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS) **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S.MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT 12/82/02

NCI/ICRDB/CT12 82/02

PB82-938702

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/02

FEBRUARY, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY

MAR 18 1982

U. S. GOVT. PUBS.
DEPOSITORY 376

VISIT THE ICRDB BOOTH DURING THE ASCO/AACR MEETINGS FOR COMPLEMENTARY SEARCHES OF CANCERLINE IN ADDITION TO SAMPLE COPIES OF ICRDB PUBLICATIONS.

In this issue:

- **DIAGNOSIS** .... **1 - 13**
- **CHEMOTHERAPY** .... **14 - 17**
- **RADIOTHERAPY** .... **18 - 19**
- **SURGERY** .... **20 - 23**
- **MULTIMODAL THERAPY** .... **24 - 25**
- **SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY** .... **26 - 30**
- **SELECTED PRE-CLINICAL STUDIES** .... **31 - 32**
- **REVIEWS** **33**

DIAGNOSIS

1. ASSESSMENT OF ACTIVITY IN BONE TUMORS BY TELETHERMOGRAPHY.

Trifaud A, Amalric R, Poitout D, Liegey-Bagarry D
Clinique chirurgicale orthopedique et traumatologique, Hopital de la Conception, 144, rue St-Pierre, F13004 Marseille, France
Rev Chir Orthop; 67(3):187-192 1981

The assessment of the status of irradiated bone neoplasms (10 osteogenic sarcomas, 2 Ewing's sarcomas, 1 reticulolymphosarcoma, 1 histiocytosarcoma, 1 hemangioendotheliosarcoma, and 1 giant cell sarcoma) with telethermography in 17 patients is described. Only 14 cases are described; three patients died of pulmonary metastases during radiotherapy or soon after the start of the study. Telethermography indicated the presence of continued tumor activity in 8/14 patients and amputations were performed. In only 1/8 of these patients did histopathological study of the amputated tissue fail to confirm the tumor existence. In 6/14 patients, the telethermographic findings were negative and no amputation was performed. These six patients apparently remain free of recurrence at 15 mo to 5 yr following irradiation. The results indicated that the simple technic of telethermography is the most

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service • National Institutes of Health • National Cancer Institute

HE 20. 3173/2:

reliable method for the surveillance irradiated bone sarcomas. (1 Ref) (In FRE)

2. GIANT-CELL TUMOR OF BONE. A CRITICAL REVIEW OF CLINICAL, ROENTGENOLOGIC AND HISTOPATHOLOGICAL DATA OF 131 CASES.

Guo B, Cai T, Zhang H, Shen C, Zhang P, Liu C
Dept. Orthopedics, Shanghai Second Medical Coll., Rui Jin Hosp., Shanghai, People's Republic of China
Zhonghua Guke Zazhi; 1(1):8-14 1981

Clinical, roentgenologic and pathologic findings are described for 131 cases (78 males, 53 females; aged 6-66 yr) treated between 1954 and 1979. Most of the patients (92/131) were in the 21-40 yr age group. The most prevalent location of the tumor was around the knee joint. Based on follow-up studies (2 mo to 22 yr 10 mo) on 89 cases, 43 belonged to Grade I, 35 to Grade II and II to Grade III. There were 39 survivals and 4 deaths (from non-tumor causes) in Grade I, 32 survivals and 3 deaths in Grade II and 6 survivals and 5 deaths in Grade III cases. Among the five deaths in Grade III cases, four had lung metastasis. Recurrence occurred in 16 cases, 3 of whom had fibrosarcomatous changes. Treatment used included amputation, curettage, bone grafting, en bloc excision and cryosurgery depending on tumor grade. The suitability of treatment methods for the different grades of tumor is discussed, so is the pathology of giant-cell tumor in relation to fibrosarcoma. (8 Refs) (In CHI)

3. ULTRASTRUCTURAL STUDY OF OSTEOSARCOMAS.

Garbe LR, Monges GM, Pellegrin EM, Payan HL
Dept. Pathology, Medical Univ. Marseilles, Marseille, France
Hum Pathol; 12(10):891-896 1981

The ultrastructural examination of four osteosarcomas (osteogenic, undifferentiated, and pleomorphic) is described. There are three types of tumor cells. Most of the cells are held in contact by desmosome-like tight junctions; they are atypical osteoblasts with cytoplasmic processes, dilated rough endoplasmic reticulum, mitochondria carrying calcific inclusions, lipid droplets surrounded by glycogen, and intracellular fine filamentous fibers. Other cells exhibiting varying degrees of osteoblastic maturity are also seen with multilobed nuclei, a clear cytoplasm, and straight bordered membranes. The last type is chondroid with abundant deposits of glycogen, lipid droplets, and undilated rough endoplasmic reticulum. The matrix is composed of fibrils without periodicity, scattered and deteriorated collagen fibers, and focal calcium deposits of hydroxyapatite crystals as in embryonal bone, dentine, or ca llus bone. (Author abstract) (11 Refs)

4. EXTRACELLULAR MATRIX VESICLES IN HUMAN OSTEOGENIC NEOPLASMS: AN ULTRASTRUCTURAL AND ENZYMATIC STUDY.

Sela J, Muhlrad A, Stein H
Div. Oral Pathology, Hebrew Univ.-Hadassah, Sch. Dental Medicine, POB 1172, Jerusalem, Israel
Cancer; 48(7):1602-1610 1981

The results of a study of the ultrastructural and enzymatic features of extracellular matrix vesicles in human osteogenic neoplasms are reported. Specimens from three osteosarcomas, a chondrosarcoma, and an osteoblastoma were processed for electron microscopic study and for preparation of vesicular, membrane, and cellular fractions. Electron micrographs of each lesion showed primary mineralization comprised of matrix vesicles and calcifying nodules. There was a distinct pattern of distribution of enzymatic activity among fractions from the osteosarcomas; namely that the highest values for specific activity of alkaline and pyrosphosphatases and adenosine triphosphatases (ATPases) in the vesicle fractions and lowest in the cell fractions. This pattern was not consistent in fractions from the other neoplasms. The aforementioned enzymes are considered essential for the onset of mineralization. The data presented establish the role of matrix vesicles in neoplastic calcification and suggest the need for further studies into the diagnostic value of the vesicles. (Author abstract) (19 Refs)

5. CHONDROGENIC BONE TUMORS.

Hagen R, Liverud Kj
Martina Hansens Hosp., 1300 Sandvika, Sweden
Tidsskr Nor Laegeforen; 101(22):1190-1196 1981

Chondrogenic intraosseous bone tumors are reviewed on the basis of cases seen during the period 1964-1979. Chondrogenic bone tumors can be benign and malignant, central or peripheral. The benign tumors include osteochondroma, chondroma, benign chondroblastoma, and chondromyxoid fibroma. Multiple osteochondromas undergo malignant transformation in 10-25% of all cases. Solitary chondroma usually have a central localization. Malignant tumors can be primary and secondary. Chondrosarcomas represent a heterogeneous group with greatly variable clinical course. The grade of malignancy is a significant prognostic factor. Mesenchymal chondrosarcoma has a tendency to appear multifocally after a long latent period and its prognosis is worse than that of chondrosarcoma. Malignant chondroblastoma or chondroblastic sarcoma is a slowly growing locally invasive tumor. Clear-cell chondrosarcoma is similar to chondroblastoma clinically and radiologically, but requires aggressive surgical management. Incision biopsy is necessary in the case of suspect malignancy. There is a good correlation between the clinical and histopathological grade of malignancy, on one hand, and the angiographically detected number of vessels. Extirpation and bone transplantation is indicated for osteochondroma, and scraping or block excision for chondroma and benign chondroblastoma. Radical surgery is necessary for chondroblastoma. Malignant chondroblastomas were diagnosed in 83 patients (55 men and 28 women) in Norway during the period 1968-1977. (16 Refs) (In NOR)

6. A CONSECUTIVE 7-YEAR SERIES OF 1331 BENIGN SOFT TISSUE TUMOURS. CLINICOPATHOLOGIC DATA. COMPARISON WITH SARCOMAS.

Myhre-Jensen O
Univ. Inst. Pathology, Aarhus Amtssygehus, 8000 Aarhus C, Denmark
Acta Orthop Scand; 52(3):287-293 1981

A consecutive series of 1,331 benign soft tissue tumors seen between 1970 and 1977 was analyzed and the data compared with that of 72 sarcomas diagnosed in the same period. Benign tumors showed a moderate female preponderance, while the male to female ratio in the 72 sarcomas was 2.0. Lipoma was the most frequent entity, found in 640 patients (48.1%). Fibrohistiocytic tumors occurred in 244 (18.3%), vascular tumors in 181 (13.6%), fibroma and fibromatosis in 140 (10.5%), neurofibroma and neurilemmoma in 68 (5.1%), leiomyoma and angiomyoma in 51 (3.8%), granular cell tumor in 4 (0.3%), and myxoma in 3 (0.2%). Approx 5% of all benign tumors measured 50 mm or more in diameter compared to more than 50% of malignant tumors. Most benign tumors were superficially located, while 73% of malignant tumors were deep seated. The prognosis of patients with soft tissue sarcomas is determined by the nature of the tumor and the primary treatment. Whenever possible, treatment should be performed in a center for soft tissue sarcomas. (24 Refs)

7. A CLINICAL AND PATHOLOGIC STUDY OF 34 SARCOMAS OF THE UTERUS.

Kenda R, De Palo G, Andreola S, Bandieramonte G, Lupi G, Musumeci R
Istituto Nazionale Tumori, Via Venezian 1, 20133 Milano, Italia
Tumori; 67(4):341-348 1981

The clinical and pathologic features of 34 uterine sarcomas were studied to determine the natural history of the disease. Sixteen patients had leiomyosarcoma, 5 mixed mesodermal sarcoma, 10 endometrial stromal sarcoma, 2 carcinosarcoma and 1 endolymphatic stromal myosis. The patients were treated without a unique protocol. At 3 yr the actuarial relapse-free survival was 53.6%: 68.4% in Stage I-II patients and 22.2% in Stage III-IV patients. Regarding the histologic subtype, mixed mesodermal sarcomas had the best prognosis; endometrial stromal sarcomas the worst. The necessity of a uniform clinical and histologic classification as well as the importance of controlled clinical trials are pointed out. (Author abstract) (30 Refs)

8. UTERINE SARCOMAS: AN ANALYSIS OF 69 PATIENTS.

Mantravadi RV, Bardawil WA, Lochman DJ, Liebner EJ, Townsend DE, Chao JH, Chaudhuri B
Univ. Illinois Hosp., P.O. Box 6998, Chicago, IL, 60680
Int J Radiat Oncol Biol Phys; 7(7):917-922 1981

In a review of 69 uterine sarcomas, histological types included 32 leiomyosarcom as (LMS), 10 endometrial stromal sarcomas (ESS), 5 rhabdomyosarcomas (RMS), 14 mixed mesodermal sarcomas (MMS), and 3 fibrosarcomas (FS). Staging by International Federation of Obstetrics and Gynecology standards indicated 29 stage I, 5 stage II, 11 stage III, 7 stage IV, and 17 unknown. Procedures employed included total abdominal hysterectomy and bilateral salpingooophorectomy in 54, surgery alone in 31, radiotherapy (RT) alone in 15 , preoperative RT and surgery in 5, and surgery followed by RT in 18. The overall survival rate was 50.7% after 2 yr and 37.9% after 5 yr. The 5-yr survival rate was 17/29 (58%) for Stage I, 2/5 (40%) for Stage II, and 0/11 for Stage III and 0/7 for Stage IV. At any given stage patients with LMS showed better survival rates than other histologic types. Combined treatment produced the lowest rate of pelvic failures. Distant metastases occurred in 73.3% of cases; common metastasis sites were lung and liver. Lung metastases occurred in all LMS patients showing failure. Adjuvant postoperative radiotherapy was recommended in LMS later than stage I and in all stages of other types. Systemic chemotherapy was also recommended as part of comprehensive treatment. (16 Refs)

9. ANGIOSARCOMA OF SKIN AND SOFT TISSUE: A STUDY OF FORTY-FOUR CASES.

Maddox JC, Evans HL
(c/o Evans) Dept. Pathology, M.D. Anderson Hosp. and Tumor Inst., Texas Medical Center, Houston, TX, 77030
Cancer; 48(8):1907-1921 1981

Forty-four cases of skin and soft tissue angiosarcoma seen at M.D. Anderson Hospital before 1976 were reviewed. The cases fell into six different clinical groups: scalp-face, 17 cases; postmastectomy, 14 cases; postradiation, 5 cases; leg with vascular stasis, 2 cases; breast, 2 cases; and miscellaneous, 4 cases. In all cases in the first four groups, the tumors involved primarily the dermis and subcutis and showed similar blends of vasoformative and solid histologic patterns. Two tumors in the miscellaneous group closely resembled those in the larger groups, but the other two in that group (both located in deeper soft tissue sites) and the two breast angiosarcomas had a somewhat different microscopic appearance. Survival was generally poor in all groups, owing to frequent local recurrence and early metastasis; median survival for the entire series was 20 mo. Findings of significantly favorable prognostic importance were tumor size less than 5 cm (in the scalp-face group) and a moderate or marked lymphoid infiltrate in and around the tumor. Less significant favorable factors were a distal location (in the postmastectomy group) and low degree of pleomorphism. Only nine patients had long-term, disease-free survival. (Author abstract) (33 Refs)

10. KAPOSI'S SARCOMA IN HOMOSEXUAL MEN - A REPORT OF EIGHT CASES.

Hymes KB, Greene JB, Marcus A, William DC, Cheung T, Prose NS, Ballard H, Lauben stein LJ
(c/o Laubenstein), New York Univ. Medical Center, 530 First Ave., New York, NY, 10016
Lancet; 2(8247):598-600 1981

The clinical findings in eight young homosexual men in New York with Kaposi's sarcoma showed some unusual features. Unlike the form usually seen in North America and Europe, it affected younger men (4th decade rather than 7th decade); the skin lesions were generalized rather than being predominantly in the lower limbs, and the disease was more aggressive (survival of less than 20 mo rather than 8-12 yr). All eight had had a variety of sexually transmitted diseases. All those tested for cytomegalovirus antibodies and hepatitis B surface antigen or anti-hepatitis B antibody gave positive results. This unusual occurrence of Kaposi's sarcoma in a population much exposed to sexually transmissible diseases suggests that such exposure may play a role in its pathogenesis. (Author abstract) (12 Refs)

11. PATHOLOGY OF KAPOSI'S SARCOMA.

Hutt MS
Geographical Pathology Unit, Dept. Morbid Anatomy, St. Thomas's Hosp. Medical Sch., London SE1, England
Antibiot Chemother; 29:32-37 1981

Kaposi's sarcoma (KS) has two main patterns of growth: the more common pattern is single or multiple, well-defined, round or irregular nodules in the upper or mid-dermis; the other is a more diffuse lesion or plaque. A diagnostic feature of KS is the presence of hyaline droplets in the tumor spindle cells, which probably represent lysosomal degenerative figures. The histopathological features do not show features of a highly malignant process. Two histological variants of KS are the monocellular type (or spindle cell type) and the pleomorphic or anaplastic type; each is more difficult to diagnose than the classical mixed picture. KS has been thought to arise from a lymphoreticular cell, fibroblast, Schwann cell, endothelial cell, smooth muscle cell, glomus cell, and lymphatic endothelium. Recent observations support the hypothesis that KS arises from a pluripotential and angioformative mesenchymal cell. (34 Refs)

12. KAPOSI'S SARCOMA IN KENYA. A RETROSPECTIVE CLINICOPATHOLOGICAL STUDY.

Kungu A, Gatei DG
Dept. Pathology, Univ. Nairobi, Medical Sch., PO Box 30588, Nairobi, Kenya
Antibiot Chemother; 29:38-55 1981

Between 1968 and 1978, 425 cases of Kaposi's sarcoma (KS) were diagnosed: an av of 38 cases/yr. Most of the patients (81%) were from the Kikuyu, Meru, Luhya, and Kamba tribes. Most of the cases (69) occurred in the fifth decade; however, some cases occurred in the 1-5 and 71-80 yr age groups. The male to female ratio was 8.5:1. The duration of symptoms ranged from 7 days to 16 yr with approx 65% of the cases having symptoms lasting between 1 and 12 mo. Of 357 cases, 237 (66.4%) were in the lower limb, 41 (11.5%) in the upper limb and lymph nodes in 28 (7.8%). Three reproducible histological patterns were noted: slit-forming type, solid type, and mixed type (both slit-forming and solid features). Female patients with solid histology tended to have shorter duration of symptoms than other histologic varieties. All three histologic varieties occurred in lymph nodes. Five patients had another malignant condition at the time of biopsy of KS. (11 Refs)

13. ROLE OF CYTOCHEMICAL STUDIES IN CYTOLOGICAL DIAGNOSIS OF SOFT TISSUE SARCOMAS.

Puchkov IuG, Gafton GI
Lab. Experimental Morphology and Cytology, N. N. Petrov Res. Inst. Oncology, Moscow, USSR
Lab Delo; (8):478-480 1981

The diagnostic efficacy of cytochemical examination was studied in 100 patients 34 men, 66 women; mean age 35 yr) with soft tissue sarcomas. Characteristic features of synovial sarcomas were high activity of acid phosphatase (AP) in spindle cells and giant cells, high activity of alkaline phosphatase (ALP) in the epithelial cells, and low ALP activity in spindle cells and giant cells. Liposarcomas (round cell and polymorphic cell variants) were characterized by increased AP and ALP activities, compared with diminished AP and ALP activities in myxoid variant of liposarcoma. Increased ALP activity was detected in malignant hemangioendotheliomas. (5 Refs) (In RUS)

CHEMOTHERAPY

14. EFFECTS OF HIGH-DOSE METHOTREXATE AND VINCRISTINE ON OVARIAN AND TESTICULAR FUNCTIONS IN PATIENTS UNDERGOING POSTOPERATIVE ADJUVANT TREATMENT OF OSTEOSARCOMA.

Shamberger RC, Rosenberg SA, Seipp CA, Sherins RJ
(c/o Sherins) Developmental Endocrinology Branch, Natl. Inst. Child Health and Human Development, NIH, Bldg. 10, Rm B09, Bethesda, MD, 20205
Cancer Treat Rep; 65(9):739-746 1981

We have studied gonadal function in five patients (3 men and 2 women) who received high-dose methotrexate (HD-MTX) alone and in 12 patients (7 men and 5 women) who received HD-MTX and vincristine (VCR) as postoperative adjuvant therapy for osteosarcoma. Testicular function was assessed by determination of testicular size, sperm concentration, and serum follicle-stimulating hormone (FSH), luteinizing hormone (LH), and testosterone levels while evaluation of ovarian function was based on menstrual history and serum FSH, LH, estradiol, and progesterone levels. The two women who received HD-MTX and all five women who received HD-MTX and VCR had regular cyclic menses not only after therapy but also during treatment. Serum FSH, LH, estradiol, and progesterone levels were normal in all women studied. Among the 10 men studied, testicular function was normal in the 6 patients evaluated initially several mo after the completion of therapy. In contrast, severe oligospermia was noted among four men evaluated during and immediately after treatment. From serum samples obtained before, during, and after treatment we have determined that approx one half of the men who received HD-MTX alone or in combination with VCR develop transient testicular failure associated with a significant increase in serum FSH but not LH levels. Sperm concentration and serum FSH levels then return to normal after completion of chemotherapy. (Author abstract) (46 Refs)

15. THE PROGNOSIS IN OSTEOSARCOMA: NORWEGIAN NATIONAL DATA.

Harvei S, Solheim O
Cancer Registry Norway, Montebello, Oslo 3, Norway
Cancer; 48(8):1719-1723 1981

Reports on the varying effect of adjuvant chemotherapy in the treatment of osteosarcomas led the authors to analyze survival experience in osteosarcomas on a national level. Data from the Norwegian Cancer Registry, covering the total population of Norway (4 million), were analyzed. There appeared to be no significant changes in survival from 1953 to 1975. For the period 1975-1977, the 48-mo survival time improved from 25% for the three preceding 5-yr periods to 47%. Possible changes in diagnostics and reporting seem to have had little effect on the occurrence of the disease. Improvement in short-time survival was therefore considered attributable to adjuvant chemotherapy introduced in 1975 and its accompanying procedures of early amputation, intensified clinical follow-up, and possible surgery on metastases. The partial contribution of these treatment elements could not be ascertained. (Author abstract) (19 Refs)

16. MANAGEMENT OF KAPOSI'S SARCOMA: CHEMOTHERAPY I.

Vogel CL
Div. Breast Cancer, Dept. Oncology, Univ. Miami Sch. Medicine, PO Box 016960, Miami, FL, 33101
Antibiot Chemother; 29:82-87 1981

A computerized search of the world literature for an association between Kaposi's sarcoma (KS) and chemotherapy revealed only 57 entries between 1970-1979. A unique variant of KS has been reported in association with immunosuppressive therapy used for other disease processes or to prevent graft rejection in renal heterotransplantation. Discontinuation of the immunosuppressive treatment may result in complete or significant regression of the KS. The most widely used chemotherapeutic agent for KS is vinblastine; vincristine is also widely used. Indolent nodular forms are probably responsive to vinblastine and possibly to chronic, low dose administration of alkylating agents or the nitrosoureas. Aggressive forms of KS (florid, infiltrative, or lymphadenopathic disease) probably require aggressive combination chemotherapy programs with the most effective combination being actinomycin D, vincristine and dacarbazine for actinomycin-resistant cases. A few cases have been treated with bleomycin, carmustine and ICRF-159 (razoxane). Adequately designed, controlled and randomized clinical trials should be conducted in centers with suitable expertise in African countries where the disease is endemic. (24 Refs)

17. MANAGEMENT OF KAPOSI'S SARCOMA: CHEMOTHERAPY II.

Olweny CL
Dept. Medicine, Makerere Univ. Medical Sch., Uganda Cancer Inst., Kampala, Uganda

Antibiot Chemother; 29:88-95 1981

Randomized clinical trials of patients with Kaposi's sarcoma (KS) treated with a three-drug combination (actinomycin D (ACT-D), vincristine (VCR), and imidazole carboxamide (DTIC)) were compared with those using a two-drug combination (ACT-D and VCR). Of the 40 patients treated with the two drugs, 22 (55%) achieved complete tumor regression (CR), 13 (32.5%) had partial response (PR), and 5 (12.5%) did not respond. Of the 32 receiving the three-drug combination, 30 (94%) achieved CR, 11 had PR and 1 had no response. The effectiveness of maintenance therapy in preventing or delaying disease relapse was investigated with further pulses of the three-drug combination every 3 mo up to 18 mo. or receive BCG immunotherapy by scarification. Another 1.5-2 yr will be required for completion. Of 27 male patients who received carmustine (BCNU), 9 had CR, 2 PR, and 16 no response. Of 47 patients (44 males, 3 females; aged 11-68 yr, av 42.1) treated with razoxane (ICRF 159), 10 achieved CR, 7 PR, 10 no response; 10 could not be evaluated. Other previous therapy had been received by 36/47. A protocol to maximize cell killing in KS involves VCR given to arrest dividing cells during mitosis; bleomycin to kill both dividing and nondividing cells; and ACT-D to inhibit recovery of G1 and S2 cells treated with the other two agents. Two patients with very aggressive, drug-resistant KS treated in this manner achieved CR; however, one experienced extensive exfoliative dermatitis. (10 Refs)

RADIOTHERAPY

18. FAST NEUTRON THERAPY FOR LOCALLY ADVANCED SARCOMAS.

Battermann JJ, Breur K
Radiotherapy Dept., Antoni van Leeuwenhoek Hosp., Netherlands Cancer Inst., Plesmanlaan 121, 1066 CX Amsterdam, The Netherlands

Int J Radiat Oncol Biol Phys; 7(8):1051-1053 1981

Preliminary results of a pilot study for the use of fast neutron beam therapy for locally advanced sarcomas are described. In general doses of 19 cGray (cGy) and higher were applied in 4 wk via two opposed ports. Of 22 patients treated, 8 achieved local control after fast neutron irradiation. Four patients were still alive at the time of analysis. None of six patients with chondrosarcoma achieved complete tumor regression, However, in three patients treated for locally advanced low grade malignant chondrosarcoma, a calcified mass was found during follow-up examinations. Results seemed to be better in soft tissue sarcomas than in osteogenic sarcomas. No significant difference was found in tumor site. Some relationship existed between tumor size and local control and between total dose and local control. Six patients developed major complications, including four with skin necrosis. The calculated max doses for s kin were 2,130, 2,450, 2,800, and 2,930 cGy, respectively. Three patients died of intestinal damage after irradiation of osteogenic tumors in the pelvis. The results showed that despite a high dose, leading to a high complication rate (6/22 patients), local tumor control was only achieved in 8/22 patients. (9 Refs)

19. CHORDOMA.

Saxton JP
Dept. Radiotherapy, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030

Int J Radiat Oncol Biol Phys; 7(7):913-915 1981

From 1948 to 1976 19 patients were treated for tumors diagnosed as chordoma; ages ranged from 4-80 yr, with 5 under 16 yr; 12 were male. Sites involved included 6 basisphenoid, 2 lumber spine, and 11 sacrococcygeal area. Four cases were treated by surgery only, six received radiation therapy (RT) only with doses of 4,000-6,500 rad, and nine received a combination of surgery plus RT with radiation doses of 3,500-7,000 rad. All those treated by surgery only died after survival times of 0-36 mo. All those receiving RT only also died, but survival times were much longer (4-60 mo). There was no correlation between dose and length of remission. Three of those receiving combined therapy are still alive after 36-80 mo. Those who died had survived for 5-51 mo. Palliation was greatest with combined therapy and poorest with surgery only. Determination of cure was difficult because of the slow progression of the disease. Results suggest that local tumor control can be achieved after resection of the obvious tumor mass by radiotherapy of up to 7,000 rad. Such high doses might produce the best results when given over a protracted period of time. (8 Refs)

SURGERY

20. APPLICATION OF FREE AUTOGENOUS FIBULAR GRAFT IN THE TREATMENT OF AGGRESSIVE BONE TUMOURS OF THE DISTAL END OF THE RADIUS.

Salenius P, Santavirta S, Kiviluoto O, Koskinen EV
(c/o Santavirta) Dept. Orthopaedics and Traumatology, Univ. Central Hosp., Toolon sairaala, SF-00260 Helsinki 26, Finland

Arch Orthop Trauma Surg; 98(4):285-287 1981

A series of six patients (aged 23-29 yr) are presented with successful long-term results after application of free autogenous fibular graft in the treatment of aggressive bone tumors of the distal end of the radius. One tumor was a low-grade chondrosarcoma, three were giant cell tumors (Grade 2 or 3), and two were hemangiomas. The operation consisted of radical excision of the tumor, including the articular surface of the radius, and reconstruction of the remaining defect with an autogenous hemijoint graft using the proximal part of the ipsilateral fibula. In each case 5-12 cm of the distal radius was resected. In the first three patients osteosynthesis was performed side to side using three cortical bone screws. The arm was then immobilized for 3 mo. More recently in three patients the osteosynthesis was performed end to en d using an AO-plate for fixation. No recurrence was seen in follow-up of 2-12 yr (av 5 yr). All patients show a bony synthesis between the radius and fibular graft. All patients returned to work within 6 mo with adequate grip strength for manual work. (12 Refs)

21. TOTAL EXCISION OF THORACIC VERTEBRAE. TECHNIC. INDICATIONS.

Roy-Camille R, Saillant G, Bisserie M, Judet T, Hautefort E, Mamoudy P
Service d'Orthopedie et de Traumatologie, Hopital de la Pitie, 83, boulevard de l'Hopital, 75634 Paris Cedex 13, France
Rev Chir Orthop; 67(3):421-430 1981

The removal of thoracic vertebrae through the use of an extra-pleural bilateral thoracotomy through a posterior incision is described with particular reference to its use in three men (26-63 yr old) with spinal neoplasms (1 adenocarcinoma, 1 rhabdomyosarcoma, and 1 osteosarcoma). Indications for the use of this technic are described. The technic is considered in relation to its usefulness in the treatment of benign and primary and secondary malignant spinal neoplasms. (18 Refs) (In FRE)

22. SURGICAL TREATMENT OF KAPOSI'S SARCOMA.

Hiza PR
Dept. Surgery, Univ. Dar-es-Salaam, Dar-es-Salaam, Tanzania
Antibiot Chemother; 29:70-72 1981

In Kaposi's sarcoma (KS), the greatest contribution of surgery has been in providing biopsy specimens. Since KS usually presents as skin lesions, it is easy to biopsy. The choice of biopsy site is important to diagnosis. Fungating lesions should not be biopsied. The tumor mass may be reduced by wide excision of solitary tumors; thereafter chemotherapy or radiotherapy may be administered. Hemorrhage must be controlled during excision. During laparotomy for visceral disease, hemorrhage may be uncontrollable. Prognosis in children and young adults can be improved by reduction of the tumor mass, so that drugs and radiation can penetrate to the remaining lesions. Given appropriate drug or radiation treatment (RT), most tumors will regress in time. Amputation is presently not used much; however, in some cases it may be life-saving, particularly to stop profuse bleeding. Surgery is best performed as an adjuvant to other forms of treatment. Surgery after RT may be useful to facilitate faster healing, and to excise thick fibrous scar tissue to prevent contractures. Skin grafting may be necessary to cover large defects after RT, but results may be poor due to relative avascularity. (no Refs)

23. ROLE OF SURGERY IN THE MANAGEMENT OF KAPOSI'S SARCOMA IN LUSAKA ZAMBIA.

Bayley AC
Dept. Surgery, Univ. Zambia, PO Box 2379, Lusaka, Zambia
Antibiot Chemother; 29:73-81 1981

While biopsy is essential to confirm the clinical diagnosis of Kaposi's sarcoma (KS), surgery has a place in the management of only certain patients. Surgery was advised when required to save a life, to prepare the patient for chemotherapy, or to relieve local symptoms which could not be controlled by chemotherapy. Seventeen patients (all men, aged 16-73 yr, mean 40 yr) were treated for KS with actinomycin D and vincristine in 5-day courses or with ICRF 159 (razoxane) as a single agent. Four patients underwent second biopsies, and one had a third biopsy. One patient had a successful excision arthrodesis of one knee performed during the course of chemotherapy to correct a disabling fixed flexion deformity. Two patients underwent partial diathermy excision of exophytic florid lesions to reduce tumor bulk, reduce pain, and reduce the discharge and smell associated with necrosis and ulceration. Four patients had one or more amputations. (3 Refs)

MULTIMODAL THERAPY

24. THE TREATMENT OF OSTEOSARCOMA OF THE EXTREMITIES: TWENTY YEAR'S EXPERIENCE AT THE ISTITUTO ORTOPEDICO RIZZOLI.

Campanacci M, Bacci G, Bertoni F, Picci P, Minutillo A, Franceschi C
(c/o Bacci), Istituto Ortopedico, Rizzoli Via Codivilla 9, 40136 Bologna, Italy
Cancer; 48(7):1569-1581 1981

Twenty yr (1959-1979) experience in the treatment of osteosarcoma at the Bone Tumor Center of the Istituto Ortopedico Rizzoli is presented. During this period 433 cases were recorded, but only 266 were considered. All the patients underwent surgery but after 1970 whole-lung irradiation (1971), immunotherapy (1971), and chemotherapy (1972 onward) were added as adjuvant therapies on a nonrandomized basis. In the group treated with surgery alone the prognosis was very poor: 10% survived 9 yr or more after the diagnosis, an av disease-free interval of 7.7 mo and an av survival time of 13 mo. Monolateral whole-lung irradiation had negative results and was abandoned after six cases. Adjuvant immunotherapy with irradiated autologous tumor cells gave moderately positive results in 16 patients, but only by delaying the appearance of first metastases, therefore increasing the time of survival. Adjuvant chemotherapy was performed with three different protocols: one protocol with ADM only and two protocols using VCR + MTX (at medium dose) + ADM, administered according to two different schedules. Superimposable results were obtained with these three regimens. With equal follow-up, the percentage of continuously disease-free patients treated with adjuvant chemotherapy was significantly higher than that of patients treated with surgery alone (p less than 0.0001). The patients in the chemotherapy group who had relapses showed a prolonged time (x- = 12.3 mo) to the onset of the first metastasis. Adjuvant chemotherapy caused virtually no morbidity and no deaths. Reference is made to the advantages of a large and homogeneous caseload deriving from a single institution to avoid preselection bias and evaluate the effectiveness of new therapeutic approaches when patient randomization has not been employed. (Author abstract) (44 Refs)

25. THE RESULTS OF A COMBINATION INTERFERON AND SELECTIVE SURGERY IN THE TREATMENT OF OSTEOSARCOMA.

Nilsonne U, Strander H
Section d'Orthopedie oncologique, Service de Chirurgie orthopedique, 'Radiumhemmet', Hopital Karolinska, S-104-1 Stockholm, Sweden
Rev Chir Orthop; 67(3):193-197 1981

The treatment of 46 osteosarcoma patients with interferon (IF) (3 x 10(6) units/day, im, during hospital stay and 3 times/wk for 18 mo thereafter) and surgery is described. In 70% of the cases, the tumor was located near the knee. The diagnosis was confirmed in all 46 cases by biopsy. The results of this treatment is compared with those of patients treated between 1952 and 1971 and with those of patients treated with conventional methods (surgery and radiotherapy). The percentage of patients without metastases after 2 yr was 15% in the historical group, 30% in the conventional treatment group, and 50% in the IF/surgery group. At 5 yr, 27% of the conventionally treated patients were free of metastases while 50% of the IF/surgery patients showed no metastases. The 5-yr survival rates for the historical, conventional treatment, and IF/surgery groups were 15%, 30%, and 50%, respectively. Of the 46 patients treated with IF, 31 underwent amputation or disarticulation. In 15/46 cases, local resection of the tumor was possible. Of these 15 patients local recurrences necessitated amputations; 4/5 of these patients eventually died of pulmonary metastases. The results indicated that IF has some positive effect on the treatment of osteosarcomas. (14 Refs) (In FRE)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

26. KAPOSI'S SARCOMA. IV. DETECTION OF CMV DNA, CMV RNA AND CMNA IN TUMOR BIOPSIES.

Boldogh I, Beth E, Huang ES, Kyalwazi SK, Giraldo G
(c/o Huang) Cancer Res. Center, Univ. North Carolina, Chapel Hill, NC, 27514
Int J Cancer; 28(4):469-474 1981

In order to determine whether human cytomegalovirus-(CMV) DNA homologous sequences as well as CMV-specific RNA(s) and antigen(s) exist in tumor biopsies of Kaposi's sarcoma (KS) DNA-DNA reassociation, RNA-DNA in situ cytohybridization and anticomplement immunofluorescence test (ACIF) tests were applied. Three of 10 DNAs extracted from Kaposi sarcoma biopsies contained DNA sequences homologous to radioactively labeled human CMV DNA probe. The amount of CMV DNA in these sarcoma tissues was calculated to range from 0.7 to 1 genome equivalent per diploid cell. The presence of virus-specific RNA was also demonstrated in sections from 5 of 10 tumor biopsies. CMV-determined nuclear antigen(s) (CMNA) present in variable degrees were also demonstrated. In contrast, we could not detect any herpes simple virus type II (HSV-2) or Epstein-Barr virus (EBV) DNA sequences in DNA of these tumor biopsies. Furthermore, there were no detectable HSV-2 or EBV-specific RNA or virus-specific antigens in sections of these biopsies. These results provide new lines of evidence for the relationship between CMV and Kaposi's sarcoma. (Author abstract) (34 Refs)

27. ETIOLOGICAL IMPLICATIONS ON KAPOSI'S SARCOMA.

Giraldo G, Beth E, Kyalwazi SK
Natl. Cancer Inst. 'Fondazione Pascale', Naples, Italy
Antibiot Chemother; 29:12-29 1981

Multidisciplinary study of 176 cases of Kaposi's sarcoma (KS) was conducted during 1971-1979. Biopsy specimens and sera from KS patients and corresponding controls were collected within five different African Cancer Centers in areas of high and moderate KS incidence. Samples were also collected in various hospitals in areas of France with a low incidence of KS. African KS patients had high antibody titers to cytomegalovirus (CMV), but they were not significantly different from controls in the same regions. A specific serological association of European and American KS with CMV was established. CMV-related antigens were detected in 22% of tumor biopsies and in early passages of cell cultures derived from them. CMV-DNA sequences have been detected in tumor biopsies. Strain K9V CMV has been isolated in a KS-derived tissue culture. In vitro, cells infected with K9V have some of the features of cells transformed by other oncogenic CMV strains. In vivo, K9V induced a fatal lymphoid disease in old world monkeys. Clusters of KS have been observed in the West Nile District of Uganda. A significantly higher incidence of second primary tumor, particularly of the lymphoreticular system, has been observed in KS patients. (32 Refs)

28. DISCUSSION ON ETIOLOGY (KAPOSI'S SARCOMA).

Olweny CL, Giraldo G, Vogel CL, Geser A, Kigongo, Kungu A, Lothe F, Owor R
Uganda Cancer Inst., Kampala, Uganda
Antibiot Chemother; 29:30-31 1981

The question of second malignancies associated with Kaposi's sarcoma (KS) is discussed with particular reference to five cases seen in a 5-yr-period. It is uncertain whether KS consists of two different diseases; antigen-antibody complexes must be investigated in patients with the regressor type of disease (nodular indolent) and in those with progressive disease (lymphadenopathic, florid, and infiltrative). The same etiological agent may cause different clinical presentation depending on host response to the agent. A disease with long incubation period may not exhibit time-space clustering even though it has an infectious etiology. The possibility that the antigens identified in KS are tumor antigens being produced by the tumor but with viral characteristics is currently being researched. (no Refs)

29. THE EPIDEMIOLOGY OF KAPOSI'S SARCOMA.

Hutt MS
Geographical Pathology Unit, Dept. Morbid Anatomy, St. Thomas's Hosp. Medical Sch., London S.E.I., England
Antibiot Chemother; 29:3-8 1981

The highest proportional rates of Kaposi's sarcoma (KS) in Africa are in the North East and Eastern Zaire, Rwanda and Burundi, followed by French Equatorial Africa, Uganda, Malawi, Tanzania, Zimbabwe, and Kenya. In most parts of Africa incidence rates of KS are not available and proportional rates must be used. The proportional rates often hide differences of incidence within countries. Standardized Morbidity Ratios (SMR) demonstrate differences within countries. Analysis of incidence on a tribal basis in Tanzania suggests that geographical location rather than ethnic or sociocultural factors account for the differences in incidence of KS within the country. High incidence of KS appears to be limited to sub-Saharan Africa. The cause of KS remains unknown, although environmental factors appear to be maximal in Western and Eastern Zaire. Interplay between endogenous and exogenous factors might explain the changing sex ratio with age. Further studies of immunosuppressed patients in the United States and elsewhere might provide more information on the causes of KS. (16 Refs)

30. DISCUSSION ON EPIDEMIOLOGY (KAPOSI'S SARCOMA).

Lothe F, Hutt MS, Vogel CL, Owor R, Kungu A, Hiza P, Katongole-Mbidde E, Kyalwazi SR, Ngu V, Giraldo G, Shaba J, Olweny CL
World Health Organization, Geneva, Switzerland
Antibiot Chemother; 29:9-11 1981

The epidemiology of Kaposi's sarcoma (KS) is discussed. It was suggested that the apparent rarity of KS in Uganda at the turn of the century might have been caused by the attention paid to infectious and parasitic diseases at the time. KS in Uganda is the commonest connective tissue tumor and the third or fourth commonest tumor. In Kenya KS is the fourth most common tumor. A male to female ratio of about 11:1 has been reported. The age incidence begins to rise after the age of 25 and drops after the age of 60. The marked sex difference suggests some hormonal factor. The influence of heavy rainfall and high vegetation on KS incidence is discussed. The map of distribution of KS corresponds to the heavy rain belt. All patients with KS in Yaunde had microfilaria in their blood. The possibility that childhood KS and adult KS are two different diseases is addressed. The association of KS with malignant lymphoma, multiple myeloma, and pure red cell aplasia should be further explored. While KS is usually observed in peasants, it has also been found in persons of higher social class. While geographic factors remain paramount, there may still be subsidiary genetic factors involved. (no Refs)

SELECTED PRE-CLINICAL STUDIES

31. SYNTHESIS OF PRO-COLLAGEN TYPE II BY A XENOTRANSPLANTED HUMAN CHONDROBLASTIC OSTEOSARCOMA.

Lanzer WL, Liotta LA, Yee C, Azar HA, Costa J
(c/o Liotta), NIH, Building 10, Room 8B19, Bethesda, MD, 20205
Am J Pathol; 104(3):217-226 1981

The chondroblastic component of a human osteosarcoma was established as a transplantable tumor in nude athymic mice for the first time. The collagen biosynthetic production of the excised tumor was studied in organ culture. The majority of the collagen secreted in the culture media was pro-Type II as identified by diethylaminoethyl cellulose (DEAE cellulose) chromatography, gel electrophoresis, and cyanogen bromide cleavage. This system should be useful for producing large quantities of human pro-Type II collagen and for studying neoplastic cell switching of collagen synthesis. (Author abstract) (17 Refs)

32. DEVELOPMENT OF RESISTANCE TO VINCRISTINE IN A CHILDHOOD RHABDOMYOSARCOMA GROWING IN IMMUNE-DEPRIVED MICE.

Houghton JA, Houghton PJ, Brodeur GM, Green AA
(c/o P. Houghton) Div. Biochemical and Clinical Pharmacology, St. Jude Children's Res. Hosp., Memphis, TN, 38101
Int J Cancer; 28(4):409-415 1981

A cell line of childhood rhabdomyosarcoma (RD) has been grown as a xenograft in immune-deprived mice. The tumor responded to vincristine (VCR), but not to vinblastine, doxorubicin or actinomycin D. The rate and frequency at which resistance developed from administration of VCR once weekly was investigated. Tumor growth could be inhibited for 6 wk, after which time 11 of 16 xenografts grew progressively despite continued treatment. That this was a tumor acquired resistance was confirmed by growing both parent and 'resistant' lines in the same host. Under these conditions VCR completely inhibited growth of the parent tumor, but not growth of the resistant line. Continued passage of the resistant line for 10 mo in mice either treated with VCR (1.5 mg/kg/wk) or untreated, demonstrated that resistance to VCR was stable in the absence of selection pressure. In addition, the VCR-resistant line acquired a stable change in karyotype with the addition of a number 9 chromosome and an additional, unknown marker. (Author abstract) (42 Refs)

REVIEWS

33. CLASSIFYING, STAGING, AND TREATING UTERINE SARCOMAS.

Forney JP, Buschbaum HJ
Div. Gynecologic Oncology, Univ. Texas Health Science Center, Dallas, TX
Contemp Obstet Gynecol; 18(3):47,50,55-56,61-62,64,69 1981

Sarcomas may arise from uterine smooth muscle, endometrial stroma, and blood and lymph vessels. Homologous and heterologous sarcomas can occur as pure or mixed tumors. Once uterine sarcoma is diagnosed, a search for metastases is imperative. Total abdominal hysterectomy and bilateral salpingo-oophorectomy are essential for sarcomas limited to the uterus. Pure homologous sarcomas derived from the smooth muscle include leiomyosarcoma, leiomyoblastoma, metastasizing leiomyoma, leiomyomatosis peritonealis disseminata, and iv leiomyomatosis. Pure homologous sarcomas derived from endometrial stroma include endometrial stromatosis and endometrial stromal sarcoma. Pure homologous connective tissue sarcomas, pure heterologous sarcomas, mixed sarcomas, and mixed mullerian sarcomas are each discussed. The response rate to doxorubicin alone was 18% in over 200 cases of advanced and recurrent uterine sarcomas, while that to doxorubicin plus dacarbazine was 25%. However, more frequent and serious toxicity was reported with the combination regimen. Treatment of choice is doxorubicin alone. Adjuvant chemotherapy after surgical excision may be successful in sarcomas arising at other sites. The use of doxorubicin as chemoprophylaxis in a large, randomized trial is currently under investigation. (41 Refs)

☆ U. S. GOVERNMENT PRINTING OFFICE : 1982—361-847/111

AUTHOR INDEX WITH CITATION NUMBERS

Amalric R. 1
Andreola S. 7
Azar HA. 31
Bacci G. 24
Ballard H. 10
Bandieramonte G. 7
Bardawil WA. 8
Battermann JJ. 18
Bayley AC. 23
Bertoni F. 24
Beth E. 26
Beth E. 27
Bisserie M. 21
Boldogh I. 26
Breur K. 18
Brodeur GM. 32
Buschbaum HJ. 33
Cai T. 2
Campanacci M. 24
Chao JH. 8
Chaudhuri B. 8
Cheung T. 10
Costa J. 31
De Palo G. 7
Evans HL. 9
Forney JP. 33
Franceschi C. 24
Gafton GI. 13
Garbe LR. 3
Gatei DG. 12
Geser A. 28
Giraldo G. 26
Giraldo G. 27
Giraldo G. 28
Giraldo G. 30
Green AA. 32
Greene JB. 10
Guo B. 2
Hagen R. 5
Harvei S. 15
Hautefort E. 21
Hiza P. 30
Hiza PR. 22
Houghton JA. 32
Houghton PJ. 32
Huang ES. 26
Hutt MS. 11
Hutt MS. 29
Hutt MS. 30
Hymes KB. 10
Judet T. 21
Katongole-Mbidd. 30
Kenda R. 7
Kigongo. 28
Kiviluoto O. 20
Koskinen EV. 20
Kungu A. 12
Kungu A. 28
Kungu A. 30
Kyalwazi SK. 26
Kyalwazi SK. 27
Kyalwazi SR. 30
Lanzer WL. 31
Laubenstein LJ. 10
Liebner EJ. 8
Liegey-Bagarry. 1
Liotta LA. 31
Liu C. 2
Liverud Kj. 5
Lochman DJ. 8
Lothe F. 28
Lothe F. 30
Lupi G. 7
Maddox JC. 9
Mamoudy P. 21
Mantravadi RV. 8
Marcus A. 10
Minutillo A. 24
Monges GM. 3
Muhlrad A. 4
Musumeci R. 7
Myhre-Jensen O. 6
Ngu V. 30
Nilsonne U. 25
Olweny CL. 17
Olweny CL. 28
Olweny CL. 30
Owor R. 28
Owor R. 30
Payan HL. 3
Pellegrin EM. 3
Picci P. 24
Poitout D. 1
Prose NS. 10
Puchkov IuG. 13
Rosenberg SA. 14
Roy-Camille R. 21
Saillant G. 21
Salenius P. 20
Santavirta S. 20
Saxton JP. 19
Seipp CA. 14
Sela J. 4
Shaba J. 30
Shamberger RC. 14
Shen C. 2
Sherins RJ. 14
Solheim O. 15
Stein H. 4
Strander H. 25
Townsend DE. 8
Trifaud A. 1
Vogel CL. 16
Vogel CL. 28
Vogel CL. 30
William DC. 10
Yee C. 31
Zhang H. 2
Zhang P. 2

NOW
Your Complimentary Copy of

The Latest
DIRECTORY OF CANCER RESEARCH INFORMATION RESOURCES

Just Return the Form at the Bottom of this Page

This Directory is Your Guide to the Following Information Sources:

COMPUTERIZED CANCER INFORMATION available through biomedical libraries

PRIMARY JOURNALS containing cancer-related articles

SECONDARY PUBLICATIONS such as abstract bulletins, indexes, bibliographies, etc.

INFORMATION ON PROJECT DESCRIPTIONS AND FUNDING SOURCES

ORGANIZATIONS that provide fellowships, grants, and other support of cancer research, as well as organizations that conduct research

REGISTRIES of cancer patient data

LIBRARIES with special collections of cancer-related literature

CLASSIFICATIONS used to categorize and index cancer information

SPECIAL COLLECTIONS of cancer-related materials

AUDIOVISUAL MATERIALS dealing with cancer

Request for **COMPLIMENTARY DIRECTORY:**
(*Print Clearly* for use as mailing label)

Name: ______________________________

Address: ______________________________

____

City/State/Zip: ______________________________

Country: ______________________________

Mail to:
Directory Request
ICRDB Program
National Cancer Institute
Westwood Building Room 10A13
Bethesda, Maryland 20205

Keep Up with the Cancer Literature

Each Month You Can Receive Abstracts Covering Your Specialty Area

- This convenient service — called Auto SDI* — is as near as your nearest biomedical library. Discuss your research interests with the librarian who will design an appropriate search strategy.
- Abstracts of the latest published literature are searched automatically each month and those related to your interests are delivered to you on a regular basis.
- The abstracts you receive are selected from more than 4,000 monthly entries made into CANCERLIT — the extensive cancer literature data base of the National Cancer Institute.

Talk With Your Librarian About the Auto SDI Service TODAY.

*Auto SDI stands for Automatic Selective Dissemination of Information. It is a service provided to you, at minimal cost, by the International Cancer Research Data Bank (ICRDB) — a part of the National Cancer Institute.

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S. MAIL

CT-12

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL 60616

CT 12/82/03

NCI/ICRDB/CT12 82/03

PB82-938703

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/03

MARCH, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY

APR 7 1982

U. S. GOVT. PUBS.
DEPOSITORY 376

STAY UP TO DATE IN YOUR FIELD. AN
AUTOMATIC SDI IN CANCERLIT CAN
GIVE YOU A MONTHLY LIST OF NEW
ABSTRACTS RETRIEVED BY A
CUSTOMIZED SEARCH PROFILE.
CONTACT YOUR LIBRARIAN OR THE
ICRDB PROGRAM, WESTWOOD BLDG.,
RM. 10A18, BETHESDA, MD. 20205.

In this issue:

- DIAGNOSIS........ 1-15
- CHEMOTHERAPY........ 16-19
- SURGERY........ 20
- MULTIMODAL THERAPY........ 21
- CASE REPORTS........ 22-23
- SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY........ 24-25
- SELECTED PRE-CLINICAL STUDIES........ 26-27

DIAGNOSIS

1. QUOTIENT IMAGING WITH N-13 L-GLUTAMATE IN OSTEOGENIC SARCOMA: CORRELATION WITH TUMOR VIABILITY.

Reiman RE, Huvos AG, Benua RS, Rosen G, Gelbard AS, Laughlin JS
210 Kettering Lab., Memorial Sloan-Kettering Cancer Center, 425 East 68th St., New York, NY, 10021
Cancer; 48(9):1976-1981 1981

An investigation was performed to correlate the regional uptake of N-13 L-glutamate with histologic changes in tumor tissue in patients undergoing adjuvant chemotherapy for osteogenic sarcoma. A parametric image was produced by calculating the ratio of N-13 uptake in the tumor in a pixel-by-pixel fashion, using the presurgical scan as the numerator and the pretherapy scan as the denominator. The change in N-13 uptake in 2 x 2-cm regions of the tumor was compared with

HE 20. 3173/2:

residual cell viability as determined by microscopic examination of multiple thin sections obtained from the surgical specimens. Regions that showed decreases in N-13 uptake of more than 30% were frequently associated with areas of highly necrotic tumor, and regions that showed increasing uptake were associated with high residual cell viability and incomplete response to chemotherapy. (Author abstract) (15 Refs)

2. 99MTC-MDP SCINTIGRAPHY FOR DETECTION OF EXTRAOSSEUS METASTASES FROM OSTEOSARCOMA (MEETING ABSTRACT).

HoefnagelCA, Bruning PF, Cohen P, Marcuse HR, van der Schoot JB
No affiliation given
Eur J Nucl Med; 6:82 1981

X-ray tomography of the lungs is a well established method for the detection of lung metastases in osteosarcoma. However in autopsies the frequency of pulmonary metastases is higher than is demonstrated by radiography alone. To determine the value of technetium methylene diphosphate(99mTc MDP)-scintigraphy for this indication we retrospectively compared results of total body scintigraphy and x-ray tomography of the lungs in 41 patients, of whom 26 developed lung metastases. In 14 patients both examinations were done at the time lung metastases were present. In 13 of these patients 99mTc-MDP-scintigraphy clearly demonstrated pulmonary metastases (92.9%). Altogether results of 69 bone scinitigrams could be correlated to those of x-ray tomography; the sensitivity of scintigraphy for the detection of lung metastases was 88.9%, the specificity 100%. In 2 patients scintigraphy showed lung metastases 1-2 mo prior to the first radiographic abnormality, whereas in another patient no 99mTc-MDP-uptake in the lungs was seen. This appeared to be correlated to the degree of differentiation of the tumor. 99mTc-MDP scintigraphy is of great value in osteosarcoma not only for the detection of pulmonary metastases, but also of skeltal metastases and metastases in lymph nodes and other soft tissue. 99mTc-MDP scintigraphy should be used as a routine in staging and follow-up of osteosarcoma. (no Refs)

3. ULTRASTRUCTURE OF ADAMANTINOMA OF LONG BONES.

Povysil C, Matejovsky Z
IInd Dept. Pathology, Charles' Univ., Prague 2, U nemocnice 4, Czechoslovakia
Virchows Arch [Pathol Anat]; 393(2):233-244 1981

Electron microscopic examination of three adamantinomas of long bones revealed structures usually observed in both mesenchymal and epithelial tumors. Tumor cells showing high alkaline phosphatase activity frequently tended to line clefts in connective tissue, resembling endothelial cells. The long processes of such cells showed fenestration. In areas showing fiber production the tumor cells were in close relationship to collagen fibrils. The latter were found, together with microfibrils, between the processes and above the basement membranes. The tumor cells were interconnected by desmosomes with tonofilaments and contained numerous bundles of microfilaments. All three cases revealed tiny intracytoplasmic inclusions resembling Weibel-Palade endothelial bodies. In addition, some of the structures in the lumina contained definite acid mucosubstances. A squamous cell pattern was present in only one of the three specimens. The coincidence of divergent structures in a single specimen has led us to the conclusion that the so-called adamantinoma of long bone might be possibly related to tumors of mesodermal or mesectodermal origin. (Author abstract) (21 Refs)

4. ADAMANTINOMA OF THE LONG BONES: THE EXPERIENCE AT THE ISTITUTO ORTOPEDICO RIZZOLI.

Campanacci M, Laus M, Giunti A, Bertoni F, Gitelis S
(c/o Gitelis) Dept. Orthopedic Surgery, Rush-Presbyterian-St. Luke's Medical Center, 1753 West Congress Parkway, Chicago, IL, 60612
Am J Surg Pathol; 5(6):533-542 1981

Adamantinoma of the long bones (ALB) is a rare tumor, distinct from adamantinoma of the jaw, and possibly derived from epithelial tissue. Nine cases were reviewed in retrospect. Patient age range was 8-57 yr with an av of 26.6 yr. Seven patients were males. Six tumors involved the tibia alone, one the humerus, one the femur, and one the tibia and fibula. All tumors involved the diaphysis. ALB developed slowly in all cases; diagnosis was made 1.5-12 yr after onset of pain. Radiological examination showed an area of osteolysis with a 'soap-bubble' appearance. Tumors were well circumscribed, pale, rubbery, and hemorrhagic. Histologically ALB consisted of epithelioid proliferation in a fibrous stroma. Four patterns were noted: spindle, basaloid, squamoid, and tubular. Diagnosis was based on tumor location, patient age, history of symptoms, and radiological appearance. Six patients were treated by curettage and grafting (CG); one received radiation followed by resection after 3 yr without further recurrence; one had resection without recurrence; one was treated by recent amputation. Four patients treated by CG developed recurrences within 1-3 yr. Three of these were treated surgically. One declined amputation. All were alive at the time of this report. (17 Refs)

5. ULTRASTRUCTURAL STUDY OF CONVENTIONAL CHONDROSARCOMA AND OSSEOUS AND EXTRAOSSEOUS MYXOID AND MESENCHYMAL CHONDROSARCOMA (MEETING ABSTRACT).

Martinez-Tello FJ, Navas-Palacios JJ
No affiliation given
Eighth European Congress of Pathology, August 30-September 4, 1981, Helsinki, Finland. The Congress 92 pp., 1981.

Five cases of conventional chondrosarcoma (Ch) of graded malignancy, 3 cases of myxoid Ch (1 extraosseous) and 2 cases of mesenchymal Ch (1 extraosseous) were studied by electron-microscopy. The chondrocyte-like tumor cells of conventional Ch were characterized by an ovoid shape, eccentric nucleus, abundant endoplasmic reticulum with dilated cisternae of rough endoplasmic reticulum (RER), cytoplasmic glycogen, lipid droplets, and filaments plus numerous thin cytoplasmic projections. The histologically high degree tumors showed fewer cytoplasmic organelles, bizarre nuclei, and more prominent nucleoli than the better differentiated ones. An inverse relationship between glycogen amount and the histological grade of malignancy was also observed. The tumor cells of myxoid Ch were chiefly fusiform. The cells frequently presented a pattern in rows with good cellular cohesion, and scarce cytoplasmic projections. The most prominent cytoplasmic feature was a conspicuous RER. Abundant cytoplasmic filaments and cytoplasmic glycogen were also observed. The undifferentiated areas of the mesenchymal Ch showed primitive mesenchymal cells with rounded nuclei, and scarce cytoplasm which was poor in organelles and glycogen. The cytoplasmic membranes were very cohesive and cytoplasmic projections were not present. Scarce cytoplasmic filaments and conspicuous demosome-like unions were observed. The intercellular matrix of conventional and myxoid Ch consisted of fibrils, glycosaminoglycan granules and collagen fibers. In the undifferentiated zones of the mesenchymal Ch the intercellular matrix was very scant and did not contain collagen fibrils. Our findings suggest that

Ch may be build up by the cells ranging from small undifferentiated mesenchymal cells which differentiate to chondrocyte-like cells. (no Refs)

6. CRANIAL COMPUTED TOMOGRAPHIC APPEARANCE OF CHONDROSARCOMA OF THE BASE OF THE SKULL.

Grossman RI, Davis KR
Dept. Radiology, Hosp. Univ. Pennsylvania, Philadelphia, PA
Radiology; 141(2):403-408 1981

Five patients with a histologic diagnosis of chondrosarcoma are discussed, with special attention to evaluation of these lesions by cranial computed tomography (CCT). These patients displayed findings that are highly suggestive of chondrosarcoma: high absorption abnormality on plain CCT scans, contrast enhancement, and osteolytic changes of the contiguous bone. Treatment consisted of surgery and subsequent radiation therapy. CCT played an important part in diagnosing and determining the extent of the chondrosarcomas. (Author abstract) (16 Refs)

7. CHONDROSARCOMA OF BONE. THE EXPERIENCE AT THE ISTITUTO ORTOPEDICO RIZZOLI.

Gitelis S, Bertoni F, Picci P, Campanacci M
Dept. Orthopedic Surgery, Rush-Presbyterian-St. Lukes Medical Center, 1753 West Congress Parkway, Chicago, IL, 60612
J Bone Joint Surg [Am]; 63(8):1248-1257 1981

We retrospectively reviewed the records of 125 patients with chondrosarcoma seen at the Istituto Ortopedico Rizzoli. All of the patients had been followed for at least 5 yr, and 96 patients had been followed for at least 10 yr. The requirements for the adequacy of treatment were carefully defined. Metastasis and survival were related to the histological grade of the tumor. Nine percent of the Grade-1 lesions and 44% of the Grade-3 lesions metastasized. Ninety-four percent of the patients with Grade 1 lesions survived for 5 yr, compared with only 44% of patients with Grade 3 lesions. The 10-yr survival rates were 87% and 27%, respectively. Adequacy of treatment had an important influence on the incidence of recurrence, length of survival and length of survival, and length of disease-free survival. The incidence of recurrence in adequately treated patients was 6%, but in inadequately treated patients it was 69%. The 5-yr survival rates in these two groups were 81% and 53%, respectively. Seventy-eight percent of the adequately treated patients were disease-free at follow-up (mean, 11.1 yr) compared with only 6% of the inadequately treated patients. We compared the results of this reviewed with those of other reviews of chondrosarcoma. (Author abstract) (20 Refs)

8. SO-CALLED MESOTHELIOMA OF THE ATRIOVENTRICULAR NODE.

Paulsen SM, Kristensen IB
Inst. Pathology, Aalborg Hosp., Section North, 9000 Aalborg, Denmark
J Submicrosc Cytol; 13(4):667-674 1981

A so-called mesothelioma of the atrioventricular node causing sudden, unexpected death is reported. The tumor is composed of tubular-glandular spaces and surrounded by connective tissue containing reticulin and elastic fibers. The tubular-glandular spaces are lined by a single, cuboidal or multilayered squamous epithelium. The tumor epithelium contained epithelial mucin and carcinoembryonic antigen (CEA). At the ultrastructural level the epithelium showed tight junctions, desmosomes and a few epithelial cells had preserved blunt microvilli at the luminal cell surface. Many tumor cells contained a large number of cytoplasmic tonofilaments. Our results support the opinion, that the conducting tissue tumor is a lesion arisen from sequestered endodermal elements from the primitive foregut during cardiac organogenesis. (Author abstract) (20 Refs)

9. TWO-DIMENSIONAL ECHOCARDIOGRAPHY IN THE DIAGNOSIS OF LEFT ATRIAL MYXOMA.

Perry LS, King JF, Zeft HJ, Manley JC, Gross CM, Wann LS
(c/o Wann) Cardiovascular Section, VA Medical Center, Wood, WI, 53193
Br Heart J; 45(6):667-671 1981

Use of two-dimensional echocardiography in the non-invasive diagnosis of 7/11 patients with left atrial myxoma is described. Cross sectional echocardiography delineated a left atrial mass attached by a stalk to the interatrial septum in all seven patients, including one with immobile tumor. The technique is safer than angiography and more informative than M-mode echocardiography; it yields information on tumor size, tumor shape, and the effect of the tumor on cardiac function. Because all cardiac chambers can be visualized, rare instances of multiple tumors are less likely to be missed. Diagnosis of small tumors and early recurrences should be facilitated by two-dimensional echocardiography. The technique permits differentiation of left atrial myxomas from other masses because it delineates the tumor stalk. (26 Refs)

10. INCIDENCE AND HISTOLOGICAL STRUCTURE OF THE STORIFORM PATTERN IN BENIGN AND MALIGNANT FIBROUS HISTIOCYTOMAS.

Meister P, Konrad E, Hohne N
Pathologisches Institut der Universitat, Thalkirchner Str. 36, D-8000 Munchen 2, W. Germany
Virchows Arch [Pathol Anat]; 393(1):93-101 1981

A starlike arrangement of cells and fibers, the 'storiform pattern', was found to be a typical, but not obligatory, histological feature of benign and malignant fibrous histiocytomas. In 155 benign fibrous histiocytomas storiform structures were missing in 29 cases, chiefly of the fibroblastic type comparable with classical 'dermatofibroma'. Twelve of 70 malignant fibrous histiocytomas did not reveal storiform structures, especially the cellular pleomorphic variant, ie the classical pleomorphic sarcoma. Storiform structures were either small and highly cellular with few fibers (collagen Type III), or larger, less cellular, but with abundant fibers (collagen Type I). There was no sharp demarcation between these two extremes, but many transitional structures or patterns were seen. The histiocytic nature of the cells was demonstrated in both variants of storiform structures by immunohistochemical methods on paraffin embedded material. Alpha1-antichymotrypsin was especially valuable in this respect. (Author abstract) (21 Refs)

11. RADIONUCLIDE IMAGING OF SOFT TISSUE NEOPLASMS.

Chew FS, Hudson TM, Enneking WF
(c/o Hudson) Dept. Radiology, Univ. Florida, Box J-374 J.H.M.H.C., Gainesville, FL, 32610
Semin Nucl Med; 11(4):266-276 1981

Two classes of radiopharmaceuticals may be used for imaging tumors of the musculoskeletal system. The first is comprised of soft tissue or tumor-specific agents such as gallium-67, bleomycin, and radionuclide-labeled antibodies, which may be useful for detecting and localizing these tumors. The other class of tracer is comprised of those with avidity for bone. The

99Tc-labeled-phosphate skeletal imaging compounds have been found to localize in a variety of soft tissue lesions, including benign and malignant tumors. In 1972, Enneking began to include bone scans in the preoperative evaluation of soft tissue masses. Later, he and his associates reported that these scans were useful in planning operative treatment of sarcomas by detecting involvement of bone by the tumors. Nearly all malignant soft tissue tumors take up bone-seeking radiopharmaceuticals, and bone involvement was indicated in two-thirds of the scans we reviewed. About half of benign soft tissue lesions had normal scans, but the other half showed uptake within the lesion and a few also showed bone involvement. Careful, thorough imaging technique is essential to proper evaluation. Multiple, high-resolution static gamma camera images in different projections are necessary to adequately demonstrate the presence or absence of soft tissue abnormality and to define the precise relationship of the tumor to the adjacent bone. (Author abstract) (24 Refs)

12. SOFT TISSUE SARCOMAS: CLASSIFICATION AND NATURAL HISTORY.

Hajdu SI
Cytology Service, Memorial Sloan-Kettering Cancer Center, New York, NY
CA; 31(5):271-280 1981

The classification and natural history of soft tissue sarcomas (STS)are reviewed. STS account for about 1% of all malignant tumors and may be composed of combinations of cell types, including slender spindle cells, plump spindle cells, granular epithelioid cells, clear epithelioid cells, isomorphic giant cells, or pleomorphic giant cells. STS may be classified as sarcomas of fibrous tissue (malignant fibrous histiocytomas or fibrosarcomas), sarcomas of tendosynovial tissue, adipose tissue, muscle, blood and 21 lymphatic vessels, peripheral nerves, extraskeletal bone, and miscellaneous types. Because of the variety of tumors, establishment of uniform classification and staging have been difficult. Consequently clinical management has been a problem. However progress has been made over the last 10 yr using combined surgery, irradiation, and chemotherapy. (21 Refs)

13. NEUROGENIC SARCOMA. PATHOLOGICAL STUDY OF 30 CASES (MEETING ABSTRACT).

Fassina AS, Rugge M, Arslan-Pagnini C
Institute of Pathological Anatomy, University of Padua, Padua, Italy
Eighth European Congress of Pathology, August 30-September 4, 1981, Helsinki, Finland. The Congress 92 pp., 1981.

Thirty-six cases of neoplasia under the various headings of neurogenic sarcoma, malignant schwannoma and nerve cell fibrosarcoma were reviewed and reclassified using the Trojanowski criteria. The study covered a 15 yr period (1965-80) and included 234487 cases observed at the Institute of Pathological Anatomy of the University of Padua. Of 427 patients with tumors of the peripheral nervous system 396 were diagnosed as benign schwannomas or neurofibromas, while 36 were malignant schwannomas. Reevaluation of these 36 cases led to the exclusion of 6 which were reclassified as malignant fibrous histiocytomas (2 cases), malignant melanoma, fibrosarcoma, liposarcoma and Hodgkin disease. In the remaining 30 cases, 11 (35.48%) were localized at the extremities, 10 (33.25%) at the trunk and 9 (31.27) in various other sites. Three patients had von Reklinghausen disease, 8 had a previously diagnosed benign neurinoma, in 3 cases the mass was at the origin of a spinal root and in 5 attachment to a large nerve could be clearly seen. In the cases where origin from a nerve could not be established, diagnosis was possible when the following histological patterns were present: myxomatous degeneration Alcian Blue positive (pH 2.5); elongated cells with large vesicular nuclei; nuclear palisading; nerve fibril formation; thick walled vessels; Verocay-like bodies; intravascular projections and electron microscopic features of Schwann cell origin. (no Refs)

14. CYTOLOGY OF PRIMARY AND METASTATIC UTERINE SARCOMAS (MEETING ABSTRACT).

Massoni EA, Hajdu SI
Department of Pathology, Memorial Sloan-Kettering Cancer Center, New York, NY
Twenty-ninth Annual Scientific Meeting of the American Society of Cytology, November 2-7, 1981, St. Louis, Missouri. The Society 90 pp., 1981.

Over a ten yr period (1970-1980) 358 women were treated for uterine sarcomas at Memorial Sloan-Kettering Cancer Center. The uterine sarcomas were: leiomyosarcoma (47%), mesodermal mixed tumor (39%), endometrial stromal sarcoma (7%), spindle cell sarcoma (4%), embryonal rhabdomyosarcoma (2%) and carcinosarcoma (1%). Cytologic specimens, either gynecologic, non-gynecologic or both, were obtained from 165 patients. Forty-four gynecologic and 43 non-gynecologic specimens from 58 patients (35%) contained malignant neoplastic cells. The primary sarcomas which were detected by examination of gynecologic specimens were: mesodermal mixed tumor, 30; leiomyoscarcoma, 6; carcinosarcoma, 4; endometrialstromal sarcoma, 3 and spindle cell sarcoma, 1. The 43, cytologically positive, non-gynecologic specimens, which were obtained from patients with metastatic disease were: ascitic fluid, 17; pleural fluid, 8; aspirations, 6; urine, 5; cerebrospinal fluid, 1; sputum, 1 and miscellaneous specimens, 5. The majority of the metastatic neoplasms were mixed mesodermal tumors (58%) or leiomyosarcomas (30%). In the mesodermal mixed tumor group the adenocarcinoma component was the most frequent single component to metastasize and was seen in 87% of the non-gynecologic specimens. Cytologically, the neoplastic glandular epithelial cells were poorly differentiated and resembled neoplastic cells of poorly differentiated endometrial adenocarcinoma. The cells of leiomyosarcomas showed extreme variation in size and shape ranging from the typical spindle cells to pleomorphic, round and bizarre giant cell forms. Cytomorphologic characteristics of the various histologic types of primary and metastatic uterine sarcomas, will be presented. (no Refs)

15. IDENTIFICATION OF INTERMEDIATE FILAMENTS IN TUMOR CELLS. NEW APPROACH TO DETERMINING THE MESENCHYMAL OR EPITHELIAL ORIGIN OF A NEOPLASM (MEETING ABSTRACT).

Barazzone P, Kapananci Y, Franke W, Gabbiani G
Department of Pathology, University of Geneva, Geneva, Switzerland
Schweiz Med Wochen Schr; 111(23):870 1981

In addition to microfilaments (40-70 A in diameter) and microtubules (250 A in diameter), a great variety of cells also contain filaments 100 A in diameter called intermediate filaments (if). These filaments have an identical ultrastructural appearance in the body's various epithelial and mesenchymal cells. They can nevertheless be differentiated biochemically and immunologically because the major proteins of which they are composed vary according to cell type. These specific proteins are vimentin, characteristic of the if of most mesenchymal cells, desmin, present in smooth muscle cells as well as striated and cardiac muscle fibers, and prekeratin, characteristic of tonofilaments present in epithelial cells or cells of epithelial origin. We investigated 25 malignant tumors by indirect immunofluorescence to determine the nature of ifs contained in their cells. The immunofluorescent colorations were compared with histological and, in some cases, ultrastructural and histiochemical, studies of the tumors. The cells of all the carcinomas (adenocarcinomas, spinocellular and basal cell carcinomas, undifferentiated and small cell anaplastic carcinomas) are stained by anti-prekeratin antibodies. The cells of malignant mesenchymal tumors, including lymphomas, are stained by anti-vimentin, rhabdomyosarcomas by anti-desmin. In 3 cases of undifferentiated tumors, if immunofluorescence raised the question of differential diagnosis between lymphoma and undifferentiated carcinoma. Our observations indicate that the immunologic characteristics of their own ifs are retained in histologically undifferentiated cells. This technic also makes it possible to distinguish between the mesenchymal or epithelial nature of undifferentiated neoplasms. (no Refs) (In FRE)

CHEMOTHERAPY

16. DISTURBANCES OF COAGULATION FOLLOWING HIGH-DOSAGE METHOTREXATE WITH CITROVORUM FACTOR IN PATIENTS WITH OSTEOGENIC SARCOMA.

Gobel U, Jurgens H, Von Voss H, Wahn V, Rosen G
Universitatskinderklinik, Moorenstr. 5, D-4000 Dusseldorf, W. Germany
Klin Paediatr; 193(2):94-98 1981

Twenty-eight patients with osteogenic sarcoma were treated with high doses of methotrexate (HDMTX) and citrovorum factor (CF) in a total of 50 treatment courses. Thrombocytes, prothrombin time, partial thromboplastin time, thrombin time, factors I, II, VII, VIII, IX, and X, antithrombin III, heparin, and antiplasmin were measured. A clinically evident tendency to excessive bleeding, conditioned by consumption coagulopathy, was found in four cases. Continuous administration of 200 units of heparin over 24 hr corrected the condition. Vitamin K-dependent clotting factor was reduced to less than 50% of normal levels in approx 33% of cases. Thrombin time and levels of factors V and VIII, and antithrombin III were significantly changed in cases of coagulation disorder and were suitable as diagnostic indicators. No correlation was found between serum methotrexate or serum glutamic oxaloacetic transaminase and coagulation ch anges. Length of treatment had no effect on coagulation. Prothrombin and partial thromboplastin times gave no useful indications. Risks due to HDMTX and CF treatment apparently can be minimized by routine coagulation tests. (17 Refs) (In GER)

17. MODERN APPROACHES TO COMBINATION CHEMOTHERAPY OF OSTEOGENIC SARCOMA.

Trapeznikov NN, Eremina LA, Imamaliev AS, Amiraslanov AT, Kondrat'ev VG, Siniukov PA, Dadashev KhD
Center Oncology Res., USSR Acad. Medical Sciences, Moscow, USSR
Vopr Onkol; 27(8):12-18 1981

The results of treatment of 315 cases of osteogenic sarcoma are presented. Available methods of primary tumor therapy fail to prevent dissemination of neoplastic disease by blood circulation. However, following a prophylactic course of chemotherapy (adriamycin, vincristine, cyclophosphamide, sarcolysine), 3- and 5-yr survival rates in 45 cases of limb amputation for osteosarcoma increased to 38.1% and 30.5%, respectively. No recurrences were observed in 39 patients with extensive segmental resection of bone who preoperatively received ia infusions and radiation therapy; the 3-yr survival rates were as high as 43.9% and patients showed good performance. The method offers good advantages in the treatment of patients with osteogenic sarcoma. (Author abstract) (20 Refs) (In RUS)

18. CHEMOTHERAPY OF SOFT TISSUE SARCOMAS.

Hossfeld DK, Seeber S, Siemers E, Schmidt CG
Abteilung Onkologie und Hematologie, Medizinische Universitatsklinik Hamburg-Eppendorf, Martinstrasse 52, D-2000 Hamburg 20, W. Germany
Langenbecks Arch Chir; 355:147-151 1981

Sixty-two patients with various metastasizing soft-tissue sarcomas who had not received prior chemotherapy were treated with the chemotherapeutic combination Cyvadic (adriamycin, endoxan, vincristine, and dacarbazine). Treatment produced 10% complete remissions and 20% complete and partial remissions. Combined ifosfamide and cisplatin in patients resistant to Cyvadic raised the complete and partial remission rate to 50%. (10 Refs) (In GER)

19. HYPERTHERMIC PERFUSION WITH CYTOSTATIC DRUGS: AN ADJUVANT THERAPY IN SOFT TISSUE SARCOMA OF THE LIMBS.

Tonak J, Beck H
Chirurgische Universitatsklinik Erlangen-Nurnberg, Maximiliansplatz, D-8520 Erlangen, W. Germany
Langenbecks Arch Chir; 355:157-160 1981

Fifteen patients with prognostically unfavorable or recurrent soft tissue sarcomas of the limbs were treated with hyperthermic perfusion of melphalan and actinomycin-D. Ten patients were disease-free an av 30 mo after perfusion. Two patients had local recurrence and three died of pulmonary metastases 16-34 mo after perfusion. Further use of hyperthermic perfusion is recommended. (13 Refs) (In GER)

SURGERY

20. EXTENDED VERTICAL FRONTOLATERAL LARYNGECTOMY FOR A LOW-GRADE CHONDROSARCOMA (MEETING ABSTRACT).

Mohr RM, Hussain M
No affiliation given
Otolaryngol Head Neck Surg; 89(5,section2):213 1981

The technique for an extended vertico-fronto-lateral laryngectomy, which included the right cricoid and right first three tracheal rings, is illustrated in detail with the reconstruction. The subglottis was reconstructed with a perichondrial flap. The glottis was rebuilt with pyriform sinus mucosa. The hypopharyngeal defect was closed with the remaining hypopharyngeal mucosa and overlying strap muscles. Chondrosarcoma of the larynx is rare. Differentiation between chondroma and low-grade chondrosarcoma is difficult at biopsy and at the time of the definitive procedure especially when cartilage is calcified. This dilemma is discussed and guidelines for intraoperative management are suggested. The patient has no evidence of recurrence at three yr and he eats without aspiration. His voice is normal. He has no swallowing complaints. He functions with

a number 7 Tucker valve tracheostomy tube. He refuses a completion laryngectomy. (no Refs)

MULTIMODAL THERAPY

21. RHABDOMYOSARCOMA OF THE EAR IN CHILDHOOD: A REPORT FROM THE INTERGROUP RHABDOMYOSARCOMA STUDY (MEETING ABSTRACT).

Raney RB, Lawrence W, Maurer HM, Lindberg RD, Newton WA, Ragab AH, Tefft M, Foulkes M
No affiliation given
Otolaryngol Head Neck Surg; 89(5,section2):156 1981

Twenty-four patients with rhabdomyosarcoma of the middle (22) or external ear (2) were treated from 1972 to 1978 on the intergroup rhabdomyosarcoma study (IRS) protocol. Their ages at diagnosis ranged from 1 to 14 (median age 4). Fourteen were boys and ten were girls. Three patients had grossly complete removal of tumor with local microscopic residual (group II A). Sixteen patients had gross residual local tumor (group III) after biopsy (ten) or mastoidectomy (six); five had distant metastases at diagnosis (group IV). After treatment with radiotherapy (RT) and VAC (vincristine, actinomycin D, cyclophosphamide) +/- adriamycin, 10/19 patients with localized tumor (groups II and III) are free of tumor at 2.2 to 6.6 yr from diagnosis. One group IV patient is alive with contralateral cerebellar astrocytoma 4.5 yr after initial therapy. The other 13 patients are dead of sarcoma 5 to 25 mo after diagnosis. Sites of initial recurrence in nine group III patients were the meninges in six (five had had local RT and one had had whole head RT), local recurrence (two patients), and lung metastases (one). Three group IV patients died with bone metastases; the fourth died of meningeal extension after local recurrence. Outcome was influenced by presence at diagnosis of signs indicating meningeal extension: intracranial tumor, petrous bone erosion, or facial nerve palsy. Tumor mortalities were 5/5 with intracranial tumor. Three of four additional patients had petrous erosion, 2/6 had facial palsy only, and 3/9 had no initial evidence of meningeal extension. (no Refs)

CASE REPORTS

22. LIPOSARCOMA OF THE MEDIASTINUM: REPORT OF TWO CASES AND REVIEW OF THE LITERATURE.

Standerfer RJ, Armistead SH, Paneth M
3535 SE Guildford Drive, Milwaukie, OR, 97222
Thorax; 36(9):693-694 1981

Two cases of mediastinal liposarcoma are described. Patient 1, a 40-yr-old man, presented with an enlarging mole on the anterior chest. A large lobulated mass of the right mediastinum was discovered upon chest radiography. The only symptoms were a 1-mo history of tiredness and facial swelling upon extreme exertion. A 1.6 kg well-differentiated myxoid liposarcoma was removed via right thoracotomy. Postoperative radiotherapy was administered. Patient 2, a 43-yr-old man presented with a 2-mo history of non-productive cough. Non-pusatile jugular distension was observed. Chest radiography revealed a large anterior mediastinal mass. The bulk of a well-differentiated liposarcoma was removed. Despite postoperative radiotherapy, rapid tumor regrowth occurred and the patient died 8 wk after surgery. The diagnosis and treatment of mediastinal liposarcoma are discussed. (4 Refs)

23. NEUROGENIC SARCOMAS OF THE NECK IN NEUROFIBROMATOSIS.

Martin G, Kleinsasser O
Dept. Otorhinolaryngology, Philipps Univ., Deutschhausstrasse 3, D-3550 Marburg (Lahn), W. Germany
Arch Otorhinolaryngol; 232(3):273-283 1981

The clinical and pathological features of sarcomas of the neck in neurofibromatosis patients are described based on two case reports and a review of 29 cases from neurofibromatosis developed a tumor on the left side of the neck at the age of 10 yr. She first presented for treatment at age 14 yr after the tumor had started to grow rapidly for 2 mo and dyspnea had appeared. Intubation was impossible and a tracheostomy was performed. A 12 x 9 x 8 cm, apparently well-encapsulated tumor weighing 810 g was exposed. Histology indicated a polymorphic malignant tumor. A few areas of benign neurofibromatosis were observed, but most areas were highly cellular with marked atypia resembling fibrosarcomas or histiocytomas of high malignancy. Structures as in pleomorphic angiosarcoma or liposarcoma, and even biphasic structures as in synovioma, were seen. Adjuvant chemotherapy and radiotherapy were administered but the child died 12 mo after therapy initiation. Another young girl with neurofibromatosis developed a walnut-sized node in the right submandibular region. Two yr later the tumor started to grow rapidly. The apparently well-encapsulated dumb-bell tumor, 15 x 5 x 4 cm in size and medial to the mandible to the base of the skull, was excised. Histologically this tumor showed a few isolated areas of benign neurofibroma but predominantly resembled a largely cellular fibrosarcoma of high malignancy. Diagnosis and treatment of neurogenic tumors in neurofibromatosis patients are discussed. (62 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

24. NECROSCOPIC FINDINGS OF PLEOMORPHIC, VARIABLY ACID-FAST BACTERIA IN A FATAL CASE OF KAPOSI'S SARCOMA.

Cantwell AR, Lawson JW
4900 Sunset Blvd., Los Angeles, CA, 90027
J Dermatol Surg Oncol; 7(11):923-930 1981

The presence of acid-fast and other bacteria was studied in a fatal case of Kaposi's sarcoma (KS). A 74-yr-old man died with cutaneous and visceral involvement of KS. The first biopsy-proven lesion of KS had appeared 2 yr previously as a small, red, rubbery tumor on the left upper retromolar area. Upon autopsy, sections of the myocardium showed multiple foci of acid-fast, variably sized coccoid and rod forms. The lungs contained many foci of highly pleomorphic bacteria, the microbes were Gram-positive and non-acid-fast. The esophagus showed multiple areas of ulceration, in which myriads of cocco-bacillary and filamentous, non-acid-fast and Gram-positive forms were evident. The small and large bowel also contained bacterial foci. Sections of cutaneous lesions of KS revealed rare foci of non-acid-fast, variably sized coccoid forms associated with the lesions in the dermis. Similarly stained granular structures, with variably sized coccoid elements at their periphery, were observed sparsely in the upper dermis, at the dermal-epidermal junction, and in the basal-cell layer of the epidermis. These forms were similar to forms observed in the intestinal wall. Similar granular forms were observed throughout the connective tissue. The role of bacteria in etiology of KS is discussed. (34 Refs)

25. DIFFUSE MALIGNANT PLEURAL MESOTHELIOMA IN GLASGOW.

Dorward AJ, Stack BH
Dept. Respiratory Medicine, Western Infirmary and Knightswood Hosp., Glasgow, Scotland
Br J Dis Chest; 75(4):397-402 1981

Thirty-two patients seen in one area between 1974 and 1980 with a diagnosis of malignant pleural mesothelioma are reviewed retrospectively. Asbestos contact, often in the shipyards, was found in 80%. The av age at diagnosis was 64 yr and chest pain or breathlessness were the most common initial symptoms. Radiology usually confirmed a pleural effusion, but rarely also showed pleural plaques or asbestosis. The most useful diagnostic investigation was pleural biopsy, with a 59% success rate. Post mortem examinations showed widespread infiltration of adjacent tissues in many, with hematogenous metastases in 52%. Prognosis was poor, with an av survival of 40 wk from presentation. No treatment improved life expectancy. Thoracotomy was followed by painful chest wall masses. The incidence of mesothelioma in our area is 6x higher than in the rest of Scotland. As the disease has a long latent period between asbestos exposure and appearance, it will be many yr before this rate is significantly reduced. (Author abstract) (19 Refs)

SELECTED PRE-CLINICAL STUDIES

26. BONE RESORPTIVE ACTIVITY IN CONDITIONED MEDIUM FROM RAT OSTEOSARCOMA CELL LINES (MEETING ABSTRACT).

Rodan SB, Rodan GA, Simmons H, Walenga R, Feinstein M, Raisz LG
University of Connecticut Health Center, Farmington, CT
International Conference on Prostaglandins and Cancer, August 30-September 2, 1981, Washington, DC. Lombardi Cancer Center 75 pp., 1981.

Malignancy is frequently associated with hypercalcemia, both in the presence and absence of bone metastases. We examined culture media from osteosarcoma cell lines for bone resorptive activity and attempted to characterize factors which affect its production. Cells were seeded at 25000-50000/cm2, were cultured to confluence in serum-supplemented MCDB-103 and were incubated in serum-free medium, which was subsequently assayed for effects on the release of 45Ca from prelabelled fetal rat long bones. Dialysis, solvent extraction, chromatography, and inhibitors were used to identify the resorptive activity. Various clonal cell lines produced different amounts of resorptive activity which did not correlate with in vitro growth rates or in vivo tumorigenicity but correlated with the expression of osteoblastic features. Study of media from high producers showed: 1) about 85% of the activity was dialyzable through 3500 Mr filters and 15% was retained; 2) synthesis of dialyzable material was blocked by cyclooxygenase inhibitors; 3) the material was extractable by organic solvents; 4) the media contained radioimmunoassay assayable prostaglandin E (PGE) at concentrations consistent with PGE2-stimulated resorption; 5) the cells metabolized 14C-arachidonate into PGE2 approx 180 pmoles/10(6) cells/24 hr, but did not produce prostacyclin (PGI2) or thromboxane B2. The resorptive activity was enhanced by preculturing in horse serum or by addition of arachidonate and was suppressed by glucocorticoids. (no Refs)

27. TRANSPLANTATION OF HUMAN SARCOMAS IN NUDE MICE, AND DEVELOPMENT OF 3 TUMOR MODELS FOR CHEMOTHERAPY (MEETING ABSTRACT).

Fiebig HH, Lohr GW

Department of Internal Medicine, University of Freiburg, Frieburg, W. Germany

Twelfth International Congress of Chemotherapy, July 19-24, 1981, Florence, Italy. The International Society of Chemotherapy 301 pp., 1981.

The effect of chemotherapy in advanced human sarcomas is not satisfactory. In order to develop tumor models for experimental chemotherapy, 10 human sarcomas (SX) were transplanted into nude mice. Two transplants, consisting of necrotic tumor, only, were excluded from evaluation. Tumor take occurred in 8/8 attempts. By histopathological examinations, all xenografts resembled closely the original tumors. Three soft tissue SX grew quickly: tumor doubling time (a x b) was 4 days for SX 117, 7 days for SX 81, and 16 days for SX 113. They were subpassaged, and are in their 13th, 11th and 7th generation, respectively. SX 81 metastasized into the lungs in rare cases. The other SX, including 2 chondrosarcomas, grew very slowly. The effect of chemotherapy was studied at max tolerated doses against 3 xenografts. Only SX 117 and 81 were responsive. In SX 117, dacarbazine (DTIC) and the cyclophosphamide, vincristine, adriamycin, ETIC-combination effected complete remissions, Vindesin and Cis-Platin resulted in a transient no change, nimustine, adriamycin (ADR), vincristine (VCR), and cyclophosphamide (CY) had no effect. SX 81 responded to CY, semustine (MeCCNU), HECNU, and Acetamido-1-(2-chloroethyl)-1-nitrosourea. DTIC, DADAG, and DAG effected a no change whereas ADR, fluorouracil, Vindesin, and Cis-Platin had no effect. Against SX 115, only Vindesin effected a transient no change, 6 drugs were not active. Three comparisons with results obtained in the treatment of the patients will be presented. In conclusion, 3 experimental models for human soft tissue sarcomas with different sensitivity against drugs were established following xenotransplantation of human sarcomas into nude mice. (no Refs)

☆ U. S. GOVERNMENT PRINTING OFFICE : 1982—361-847/113

AUTHOR INDEX WITH CITATION NUMBERS

Amiraslanov AT 17
Armistead SH 22
Arslan-Pagnini 13
Barazzone P 15
Beck H 19
Benua RS 1
Bertoni F 4
Bertoni F 7
Bruning PF 2
Campanacci M 4
Campanacci M 7
Cantwell AR 24
Chew FS 11
Cohen P 2
Dadashev KhD 17
Davis KR 6
Dorward AJ 25
Enneking WF 11
Eremina LA 17
Fassina AS 13
Feinstein M 26
Fiebig HH 27
Foulkes M 21
Franke W 15
Gabbiani G 15
Gelbard AS 1
Gitelis S 4
Gitelis S 7
Giunti A 4
Gobel U 16
Gross CM 9
Grossman RI 6
Hajdu SI 12
Hajdu SI 14
HoefnagelCA 2
Hohne N 10
Hossfeld DK 18
Hudson TM 11
Hussain M 20
Huvos AG 1
Imamaliev AS 17
Jurgens H 16
Kapananci Y 15
King JF 9
Kleinsasser O 23
Kondrat'ev VG 17
Konrad E 10
Kristensen IB 8
Laughlin JS 1
Laus M 4
Lawrence W 21
Lawson JW 24
Lindberg RD 21
Lohr GW 27
Manley JC 9
Marcuse HR 2
Martin G 23
Martinez-Tello 5
Massoni EA 14
Matejovsky Z 3
Maurer HM 21
Meister P 10
Mohr RM 20
Navas-Palacios 5
Newton WA 21
Paneth M 22
Paulsen SM 8
Perry LS 9
Picci P 7
Povysil C 3
Ragab AH 21
Raisz LG 26
Raney RB 21
Reiman RE 1
Rodan GA 26
Rodan SB 26
Rosen G 1
Rosen G 16
Rugge M 13
Schmidt CG 18
Seeber S 18
Siemers E 18
Simmons H 26
Siniukov PA 17
Stack BH 25
Standerfer RJ 22
Tefft M 21
Tonak J 19
Trapeznikov NN 17
Van der Schoot 2
Von Voss H 16
Wahn V 16
Walenga R 26
Wann LS 9
Zeft HJ 9

CANCER INFORMATION?

CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE · CANCERLINE ·

JUST MENTION OUR NAME

Mention CANCERLINE to your librarian and the world's foremost collection of cancer information is at your disposal. With the help of this computerized data system, you can obtain information on the following:

Cancer Literature

The literature date base, **CANCERLIT**, allows you to survey more than 3,000 biomedical journals for information on your topic of interest. Your search will also alert you to meeting proceedings, monographs, and books published in that area. Informative abstracts averaging 200 words are provided with each citation;

Current Cancer Research

The data base **CANCERPROJ** allows you to retrieve descriptions of current work in any cancer research area. The descriptions, which state research objective, methodology, and experimental results, are supplied for projects underway in 77 countries around the world.

Cancer Therapy Protocols

The **CLINPROT** section of CANCERLINE is designed primarily for clinicians. It provides detailed summaries of currently active experimental protocols for any cancer site, agent, or type.

Ask your biomedical librarian about CANCERLINE.

CANCERLINE is sponsored by the International Cancer Research Data Bank—a program of the National Cancer Institute.

CANCERLINE

NOW

Your Complimentary Copy of

The Latest
DIRECTORY OF CANCER RESEARCH INFORMATION RESOURCES

Just Return the Form at the Bottom of this Page

This Directory is Your Guide to the Following Information Sources:

COMPUTERIZED CANCER INFORMATION available through biomedical libraries

PRIMARY JOURNALS containing cancer-related articles

SECONDARY PUBLICATIONS such as abstract bulletins, indexes, bibliographies, etc.

INFORMATION ON PROJECT DESCRIPTIONS AND FUNDING SOURCES

ORGANIZATIONS that provide fellowships, grants, and other support of cancer research, as well as organizations that conduct research

REGISTRIES of cancer patient data

LIBRARIES with special collections of cancer-related literature

CLASSIFICATIONS used to categorize and index cancer information

SPECIAL COLLECTIONS of cancer-related materials

AUDIOVISUAL MATERIALS dealing with cancer

Request for **COMPLIMENTARY DIRECTORY:**
(*Print Clearly* for use as mailing label)

Name: ______________________________

Address: ______________________________

____

City/State/Zip: ______________________________

Country: ______________________________

Mail to:
Directory Request
ICRDB Program
National Cancer Institute
Westwood Building Room 10A18
Bethesda, Maryland 20205

The Latest International Compilation

PHASE II/PHASE III CLINICAL TRIALS

IN CASE YOU MISSED IT, THE 1981 COMPILATION OF CANCER THERAPY PROTOCOLS IS NOW AVAILABLE

Clinical oncologists are probably familiar with the annual
Compilation of Cancer Therapy Protocol Summaries
This volume summarizes clinical trials of:

- new agents
- new techniques
- new combinations of modalities and agents

The Compilation includes nearly 1,500 Phase II and Phase III trials currently in progress in countries around the world. This information is compiled by the International Cancer Research Data Bank--a program of the National Cancer Institute. It is available to you, without charge, as a public service of the program.

FOR A COMPLIMENTARY COPY, WRITE:

(*Print Clearly* for use as mailing label)

Name: ______________________________

Address: ______________________________

____

City/State/Zip: ______________________________

Country: ______________________________

Mail to:

Compilation Request
ICRDB Program
National Cancer Institute
Westwood Building Room 10A18
Bethesda, Maryland 20205

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS) **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S.MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT 12/82/04

NCI/ICRDB/CT12 82/04

PB82-938704

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/04

APRIL, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY
MAY 4 1982
U. S. GOVT. PUBS.
DEPOSITORY 376

AVAILABLE: DIRECTORY OF CANCER RESEARCH INFORMATION RESOURCES, 1981 EDITION. FOR A COMPLIMENTARY COPY, CONTACT ICRDB PROGRAM, WESTWOOD BLDG., RM. 10A18, BETHESDA, MD. 20205

In this issue:

- **DIAGNOSIS** 1-7
- **CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY** 8
- **MULTIMODAL THERAPY** 9
- **CASE REPORTS** 10-12
- **SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY** 13-16
- **SELECTED PRE-CLINICAL STUDIES** 17-18
- **REVIEWS** 19-20

DIAGNOSIS

1. ANEURYSMAL BONE CYSTS WITH EMPHASIS ON ROENTGENOLOGIC DIAGNOSIS.

Kaplan RK, Pupp GR, Feldman AC
14608 Gratiot Ave., Detroit, MI, 48205
J Foot Surg; 20(4):204-209 1981

Etiology, clinical aspects, differential diagnosis, pathology, and treatment of aneurysmal bone cysts are reviewed. A detailed roentgenological examination of a lesion should be made; each type of neoplasm tends to have a relatively constant location. Chondroblastoma is usually located within the open epiphysis, while adamantinoma is nearly always in the tibia. Matrix of tumors is of two types: osteoid and cartilaginous. A thick, well-defined sclerotic rim represents a slowly-growing benign process, whereas an ill-defined margin may indicate a rapidly progressing lesion which is usually malignant. Radiologic al 'permeative' and 'motheaten' patterns are found in lesions that are generally aggressive and invasive in nature. An uninterrupted, thick periosteum is frequently seen in infectious processes and in some benign bone tumors such as osteoid osteoma, osteoblastoma, and eosinophilic granuloma. Various

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service • National Institutes of Health • National Cancer Institute

HE 20. 3173/2:

patterns of interrupted periosteal reactions are observed. Lamellated interrupted periosteal reactions are seen in Ewing's sarcoma (ES) and osteoid osteoma; spiculated osteal reactions are often observed in metastatic disease and are prominent in ES and osteosarcoma. Computed tomography is useful in bone tumor diagnosis for elimination of spurious shadows from overlying structures. (15 Refs)

2. MESENCHYMAL CHONDROSARCOMA: A REPORT OF 17 CASES.

Harwood AR, Krajbich JI, Fornasier VL
Princess Margaret Hosp., 500 Sherbourne St., Toronto, Ontario M4X 1K9, Canada
Clin Orthop; (158):144-148 1981

The roles of chemotherapy and radiotherapy in the treatment of 17 patients (9 males, 8 females; 12-86 yr old, av age 24 yr) with mesenchymal chondrosarcoma (MS) are discussed. Fifteen cases arose primarily in the bone and two were extraskeletal. Of the 17 patients, 12 died from their disease (8 in 1 yr or less) and three were alive and well 1, 4, and 5 yr, respectively after treatment. Of the 12 deaths, 6 resulted from local recurrence and distant metastases, 3 from local recurrence alone, and 3 from distant metastases. Of the 14 patients with MS of the trunk and proximal limbs, 11 died. Two of the three cases arising in the limb were alive and well 4 and 5 yr after therapy. One case treated by curettage recurred and amputation was required. Among five patients treated with curative irradiation, one achieved complete response for 5 yr followed by a recurrence, two had partial responses for 9 and 12 mo, and two did not respond to irradiation. Two patients were treated with irradiation and concurrent chemotherapy (one with adriamycin and methotrexate (MTX) and one with actinomycin and vincristine). One of patients was alive and the other achieved a complete response following by recurrence; the latter patient was currently alive with disease. Four patients treated palliatively with radiation had no response. Four others treated with cyclophosphamide (CP) alone (2 patients), CP and MTX (1), and vinblastine (1) had no response. Two of four patients who presented with a mass were alive and well, while only 1/10 of those presenting with pain were alive and well. Surgery is the major method of treatment of MS, although chemotherapy is suggested in all MS cases treated with radical resection. Combined radiotherapy and chemotherapy was recommended for unresectable tumors. (12 Refs)

3. MALIGNANT FIBROUS HISTIOCYTOMA OF THE MENINGES. HISTOLOGICAL, ULTRASTRUCTURAL, AND IMMUNOCYTOCHEMICAL STUDIES.

Kalyanaraman UP, Taraska JJ, Fierer JA, Elwood PW
Dept. Pathology, Univ. Illinois-Peoria Sch. Medicine, 123 S.W. Glendale, P.O. Box 1649, Peoria, IL, 61656
J Neurosurg; 55(6):957-962 1981

A case of malignant fibrous histiocytoma arising from the meninges in a 12-yr-old boy is reported. This tumor presented as an extracerebral hemorrhagic mass in the left frontal lobe without obvious invasion of the underlying brain. Histologically, a malignant tumor with the characteristic storiform pattern of malignant fibrous histiocytoma with focal areas of hemorrhage was observed. Ultrastructurally, fibroblastic cells, undifferentiated cells, histiocytic-type cells, multinucleated tumor giant cells, and xanthomatous cells were distinctly seen. The possible cell of origin of these meningeal tumors and their prognosis are discussed. The significance of considering this entity in the differential diagnosis of those tumors of the CNS with a spindle-cell or xanthomatous component is discussed, and the value of ultrastructural and immunocytochemical study with glial fibrillary acidic protein in the diagnosis is stressed. (Author abstract) (21 Refs)

4. ANGIOMYOLIPOMA: COMPUTED TOMOGRAPHIC-PATHOLOGIC CORRELATION OF 17 CASES.

Sherman JL, Hartman DS, Friedman AC, Madewell JE, Davis CJ, Goldman SM

(c/o Hartman) Dept. Radiologic Pathology, Armed Forces Inst. Pathology, Washington, DC, 20306

AJR; 137(6):1221-1226 1981

The angiomyolipoma is a benign renal tumor composed of fat, smooth muscle, and abnormal blood vessels. The tumor often extends into the perinephric space and often is complicated by intratumoral or perinephric hemorrhage. The CT findings of 17 cases of angiomyolipoma were correlated with their pathologic findings and are described. CT scans usually demonstrate a large fatty mass intermixed with areas of tissue density which may represent nonfatty parts of the tumor or areas of hemorrhage. CT is more sensitive than plain films at detecting the fat within the angiomyolipoma. CT is also useful in identifying perinephric extension and hemorrhage. In those angiomyolipomas composed primarily of smooth muscle or in which intratumoral hemorrhage has obscured the fatty part of the tumor, the CT appearance is indistinguishable from other solid renal tumors. (Author abstract) (12 Refs)

5. OSSEOUS HAEMANGIOMAS.

Pandey S, Pandey AK

Orthopedic Surgery, Rajendra Medical Coll. Hosp., Ranchi 834009, India

Arch Orthop Trauma Surg; 99(1):23-28 1981

Observations on 29 cases of osseous hemangiomas are presented. Sites affected included tibia, fibula, humerus, skull, scapula, spine, pelvis, and ribs. Symptoms included pain, swelling, and deformity. Radiological examination showed coarse trabeculation, moth-eaten appearance, honeycombing, and condensation of bone. Histopathological examination performed after surgery revealed resemblance to vascular tumors with cavernous and capillary blood spaces with endothelial lining of cells in fibrous stroma. Complications included postoperative bleeding in four cases, lateral popliteal nerve paralysis (probably due to tight bandaging), hemangiosarcomatous changes in three previously benign lesions, and irreversible paraplegia in one patient with a spinal lesion. Symptoms persisted in all but localized lesions; symptomatic patients were referred for radiation therapy. Six localized cases were cured after surgery, improvement was seen with occasional recurrent symptoms in 9 cases, 11 patients could not be treated surgically and were referred for radiotherapy, and three patients developed malignant changes. Results following surgery were not encouraging; radiological assessment of healing was difficult for a long period of time. Osseous hemangiomas are rare and not easily diagnosed due to vague symptoms and bizarre radiographs. (16 Refs)

6. GASTROINTESTINAL LEIOMYOSARCOMA - UNUSUAL SITES: ESOPHAGUS, COLON, AND PORTA HEPATIS.

Balthazar EJ
Dept. Radiology, New York Univ. Medical Center, 550 First Ave., New York, NY, 10016
Gastrointest Radiol; 6(4):295-303 1981

Six newly proven cases of gastrointestinal leiomyosarcomas (LMS) occurring in unusual locations are described. A general background of gastrointestinal LMS, description and illustration of the spectrum of radiographic and angiographic findings of the unusual lesions, discussion of diagnosis and differential diagnosis, and a brief review of the literature are presented. Diagnosis of LMS was made either by histologic examination, documented metastases at surgery, or follow-up examination. Patients were a symptomatic group aged 45-66 yr old, including three women and three men. Tumors were located in the esophagus (1), cecum or colon (4), and porta hepatis (1), and ranged in size from 3 x 4 to 23 x 17 cm. Preoperative diagnosis was complicated by the protean and nonspecific clinical and radiographic features of the tumors. The porta hepatis tumor was hypervascular, but the similar tumors of the colon were only moderately vascular, and the esophageal tumor was avascular. (55 Refs)

7. HISTOLOGIC CLASSIFICATION OF CYSTOSARCOMA PHYLLODES: A STUDY OF 33 CASES.

Agnantis NJ, Apostolikas N
Dept. Pathology, Breast Div., Greek Anticancer Inst., Athens, Greece
Breast; 7(4):24-28 1981

A retrospective study and classification of 33 cases of cystosarcoma phyllodes is presented to help further define its histopathological characteristics. Cystosarcomas were classified as benign (16 cases), borderline (6 cases), or malignant (11 cases). Median size was the same for both benign and malignant tumors (5.5 cm); median borderline size was 4.08 cm. Fifteen benign, 5 borderline, and 2 malignant tumors were encapsulated. Cyst formation, necrosis and/or hemorrhage were observed in larger cystosarcomas. Histological examination showed extensive cellularity in seven benign, five borderline, and nine malignant cystosarcomas. The number of mitoses was inconclusive in benign and borderline tumors, however, 3-32 mitoses were found in malignant tumors. Stromal degeneration was observed in 15 benign, 3 borderline, and 6 malignant tumors. Mild inflammation was observed in five benign, two borderline, and four malignant tumors. Duct epithelium was hyperplastic in nine benign tumors, atrophic in five, and normal in five malignant tumors. Follow up showed 100% survival of benign and borderline cystosarcoma patients; six patients with malignant tumors have died, three survived with no evidence of disease at 2, 3, and 11 yr follow up, respectively. Conclusions include the necessity of thorough and extensive diagnosis when cystosarcoma phyllodes is suspected. (54 Refs)

CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY

8. SEROLOGIC ANALYSIS OF HUMAN TUMOR ANTIGENS. III. REACTIVITY OF PATIENTS WITH MELANOMA AND OSTEOGENIC SARCOMA TO CULTURED TUMOR CELLS AND FIBROBLASTS IN THE IMMUNE ADHERENCE ASSAY.

Sener SF, Brown JM, Hyatt CL, Terry WD, Rosenberg SA
Dept. Surgery, Evanston Hosp., 2650 Ridge Ave., Evanston, IL, 60201
Cancer Immunol Immunother; 11(4):243-250 1981

The immune adherence assay was used to measure serum reactivity of melanoma and osteosarcoma patients against paired tumor and normal skin fibroblast cell lines from the same individual. Sera from 224 patients with various stages of melanoma and from 100 normal individuals were compared. Sera from 39 osteosarcoma patients prior to amputation and from 50 normal individuals were compared. Reactive sera were found in 14% of Stage II and 7% of Stage III melanoma patients, 21% of osteosarcoma patients, and 2-3% of normal individuals. No correlation was found between high reactivity and the course of either melanoma or osteosarcoma. Antibodies against cultured cells were found in normal and osteosarcoma patients. These antibodies were directed against fetal antigens rather than tumor-associated antigens, and could be absorbed by fetal tissue. Antibodies to a common tumor antigen were found in 9/11 osteosarcoma sera but not in any normal sera. (22 Refs)

MULTIMODAL THERAPY

9. MULTIDISCIPLINARY 'LIMB SALVAGE' TREATMENT OF SOFT TISSUE AND SKELETAL SARCOMAS.

Weisenburger TH, Eilber FR, Grant TT, Morton DL, Mirra JJ, Steinberg M, Rickles D
Dept. Radiation Oncology, Univ. of California, Sch. of Medicine, Los Angeles, CA, 90024
Int J Radiat Oncol Biol Phys; 7(11):1495-1499 1981

A multidisciplinary protocol was developed using ia doxorubicin (DOX: 30 mg/day for 3 days), preoperative radiation therapy (3,500 rad in 10 fractions) and limb-sparing radical wide excision followed by postoperative chemotherapy [vincristine (VCR), 1.5 mg/square meter (m2) iv and methotrexate (MTX), 200 mg/kg over 4 hr followed 4 hr later by citrovorum rescue, 12 mg/m2 every 6 hr for 36 hr, alternating every 2 wk with monthly DOX, 45 mg/m2 iv to a total dose of 500 mg/m2; thereafter, VCR and MTX monthly for 1 yr total treatment time] for treatment of 65 patients with soft tissue tumors (STT) and 40 with skeletal sarcomas (SSA). Of the 65 with STT, 22 who presented with localized disease relapsed, 20 with distant metastases and 2 with local failure, all prior to 21 mo. Of the 28 who received postoperative chemotherapy, 6 relapsed (21%); of the 34 who did not, 16 (47%) relapsed. For all patients, the medium time to relapse was 6 mo, the actuarial survival and disease-free survival at 3 yr was 64 and 61%, respectively, and the absolute 2 yr disease-free survival was 59% (19/32 patients). Complications included five femoral fractures in 33 patients with thigh lesions. Of 36 patients with SSA who presented with localized disease, recurrence developed in 17. Of the four with metastatic disease, one was alive with disease, two were alive without disease, and one died with disease. The actuarial survival and disease-free survivals at 2 yr were 75 and 55%, respectively. Eleven of 21 cadaver allografts fractured or became unstable; no such complications occurred with metallic endoprosthesis. Overall results in both groups indicate that 97/105 patients achieved limb salvage to their last follow-up or to the time of death. Longer follow-up will help determine the late effects of this combined modality regimen. (10 Refs)

CASE REPORTS

10. CLINICAL, RADIOLOGICAL AND PATHOLOGICAL STUDY OF EWING'S SARCOMA OF THE LUMBAR SPINE. ROUND CELL SARCOMAS. REPORT ON THREE CASES.

Vacher H, Vacher-Lavenu MC, Sauvegrain J
(c/o Sauvegrain) Service de radiologie, Hopital Necker, 149, rue de Sevres, F 75730 Paris Cedex 15, France
J Radiol; 62(8/9):425-428 1981

Two cases of primary bone condensation type Ewing's sarcoma of a lumbar vertebra are described in children aged 8 and 10 yr, as well as one case of the osteolytic form in a 14-yr-old child. Ewing's sarcoma very rarely occurs in the spine, and the type with bone condensation is almost exclusively of a primary nature. The tumor extends simultaneously into the epidural space and the perispinal planes. Intravenous urography and myelography with metrizamide are therefore essential for evaluating the degree of tumor extension. Computed tomography examinations are also now necessary. Prognosis is bad and current therapeutic possibilities limited. Histological diagnosis is the only means of distinguishing Ewing's sarcoma from other round cell sarcomas in or around the spine. (Author abstract) (12 Refs) (In FRE)

11. CYSTOSARCOMA PHYLLOIDES: A CASE PRESENTATION.

Orsini JM, Perloff M, Rybak B
Clara Maass Professional Center, Suite 102, 5 Franklin Ave., Belleville, NJ, 07109
Med Pediatr Oncol; 9(5):449-453 1981

A case of cystosarcoma phylloides is presented here showing the natural history of this disease both clinically and pathologically from 1962 through 1979, and demonstrating the management of this disease by surgery and by chemotherapy with the use of adriamycin at 25 mg/m2 daily, times three days, every 28 days, which to our knowledge has not been used in this particular setting. (Author abstract) (4 Refs)

12. GIANT-CELL TUMOR OF THE SECOND CERVICAL VERTEBRA TREATED BY CRYOSURGERY AND IRRADIATION.

Mirra JM, Rand F, Rand R, Calcaterra T, Dawson E
Dept. Surgical Pathology, UCLA Sch. Medicine, Los Angeles, CA, 90024
Clin Orthop; (154):228-233 1981

A 17-yr-old girl with a giant-cell tumor of the second cervical vertebra was treated successfully with combined cryosurgery and radiotherapy. The patient presented with upper neck pain and stiffness exacerbated by hyperextension and hyperflexion. Bilateral vertebral artery angiography revealed marked tumor hypervascularity. An aneurysmal bone cyst was tentatively diagnosed. Radiologic examination revealed almost complete destruction of the second cervical vertebral body. Cryosurgery was performed. The lesion was frozen and thawed six times to ensure death of all cells in the area in case the lesion was neoplastic. Microscopic examination of the lesional tissue disclosed masses of giant cells as well as short spindly stromal cells of an unequivocal low-grade neoplastic giant-cell tumor. There was no evidence of osteoid, woven bone, chondroid or 'chicken-wire' calcifications of a chondroblastoma, nor an aneurysmal bone cyst component. Postoperative radiotherapy was administered. Healing was evidenced by bone sclerosis and remodeling of the vertebral body to nearly its original dimensions. At 53 mo after therapy, there was no evidence of recurrence and no subsequent signs of pain or tenderness, cord symptoms, or other neurologic complaints. The treatment of vertebral body tumors is discussed. (11 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

13. AN OUTBREAK OF COMMUNITY-ACQUIRED PNEUMOCYSTIS CARINII PNEUMONIA. INITIAL MANIFESTATION OF CELLULAR IMMUNE DYSFUNCTION.

Masur H, Michelis MA, Greene JB, Onorato I, Stouwe RA, Holzman RS, Wormser G, Brettman L, Lange M, Murray HW, Cunningham-Rundles S

Cornell Medical Coll., A-431, 1300 York Ave., New York, NY, 10021

N Engl J Med; 305(24):1431-1438 1981

Eleven cases of cellular immunodeficiency associated with Pneumocystis carinii pneumonia are reviewed. Patients were all men (27-40 yr old) who were either drug abusers (7) or homosexuals (6) or both (2). One patient had a cutaneous lesion revealed by biopsy to be Kaposi's sarcoma (KS). O ne other had angioimmunoblastic lymphadenopathy (AL). Eight patients died. The observed immune dysfunction could have been associated with KS and AL. (35 Refs)

14. SEVERE ACQUIRED IMMUNODEFICIENCY IN MALE HOMOSEXUALS, MANIFESTED BY CHRONIC PERIANAL ULCERATIVE HERPES SIMPLEX LESIONS.

Siegal FP, Lopez C, Hammer GS, Brown AE, Kornfeld SJ, Gold J, Hassett J, Hirschman SZ, Cunningham-Rundles C, Adelsberg BR, Parham DM, Siegel M, Cunningham-Rundles S, Armstrong D

Mt. Sinai Medical Center, New York, NY, 10029

N Engl J Med; 305(24):1439-1444 1981

Cellular immunodeficiency associated with chronic perianal ulcerative herpes simplex lesions is reported in four homosexual men. Onset of the disease was characterized by malaise, fever, and wt loss. Later infections included cytomegalovirus, Pneumocystis carinii, and Candida albicans. One patient developed Kaposi's sarcoma. Skin anergy, lymphopenia, poor or absent responses to plant lectins and antigens in vitro, and depressed natural killer cell activity against target cells infected with herpes simplex virus were observed. An association may exist between primary cytomegalovirus infection and a particularly prolonged cellular immunodeficiency state. (29 Refs)

15. PNEUMOCYSTIS CARINII PNEUMONIA AND MUCOSAL CANDIDIASIS IN PREVIOUSLY HEALTHY HOMOSEXUAL MEN. EVIDENCE OF A NEW ACQUIRED CELLULAR IMMUNODEFICIENCY.

Gottlieb MS, Schroff R, Schanker HM, Weisman JD, Fan PT, Wolf RA, Saxon A

Dept. Medicine, UCLA Sch. Medicine, Center for the Health Sciences, Los Angeles, CA, 90024

N Engl J Med; 305(24):1425-1431 1981

An acquired T-cell immunodeficiency is reported in four previously healthy homosexual men. All patients experienced malaise, fever, and lymphadenopathy for several mo prior to onset of more specific symptoms. All contracted Pneumocystis carinii pneumonia, extensive mucosal candidiasis, and multiple viral infections. Cytomegalovirus was found in the secretions of all patients, and Kaposi's sarcoma developed in one patient 8 mo after he presented with esophageal candidiasis. Antibodies to Epstein-Barr virus and hepatitis B were detected in the other three. Monoclonal-antibody analysis of peripheral blood T-cell subpopulations revealed an inversion of the T helper to suppressor/cytotoxic ratio. The association between chronic cytomegalovirus infection and Kaposi's sarcoma is discussed, and a relationship between the immunodeficiency syndrome and the recent appearance of Kaposi's sarcoma in the male homosexual population is suggested. Cytomegalovirus infection could be a result rather than a cause of the T-cell defect; exposure to an undetected microorganism, drug, or toxin may have made these patients susceptible to infection by opportunistic organisms including cytomegalovirus. (41 Refs)

16. KAPOSI'S SARCOMA. RETROSPECTIVE STUDY OF 90 CASES WITH PARTICULAR EMPHASIS ON THE FAMILIAL OCCURRENCE, ETHNIC BACKGROUND AND PREVALENCE OF OTHER DISEASES.

DiGiovanna JJ, Safai B

(c/o Safai), Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021

Am J Med; 71(5):779-783 1981

Identification of familial cases of Kaposi's sarcoma may help elucidate the role of genetic factors in this disease. To assess the prevalence of familial occurrences, the ethnic distribution of Kaposi's sarcoma and the prevalence of other diseases in our patient population, we have reviewed all cases of Kaposi's sarcoma seen at Memorial Sloan-Kettering Cancer Center between 1954 and 1975. Each patient was categorized on the basis of sex, age of onset of Kaposi's sarcoma, ethnic background, nativity, family history of Kaposi's sarcoma and prevalence of other diseases. Only one documented occurrence of familial Kaposi's sarcoma was found out of 90 cases reviewed. The frequency of familial Kaposi's sarcoma in our patient population supports the findings of other investigators. An ethnic predominance of Kaposi's sarcoma was substantiated, with most patients being immigrants from high-incidence areas (54 of 77) and predominantly of Jewish and Italian heritage (52 Jewish and 17 Italian of 87). (Author abstract) (41 Refs)

SELECTED PRE-CLINICAL STUDIES

17. CHEMOTHERAPEUTIC TRIALS WITH HAMSTER MESOTHELIOMA 10-24: RESPONSES TO AZACITIDINE, AZIRIDINYLBENZOQUINONE, CISPLATIN, AND PCNU.

Holiat SM, Smith WE, Hubert DD, Davis S
(c/o Davis) Oncology/Hematology, Veterans Admin. Medical Center, East Orange, NJ, 07019
Cancer Treat Rep; 65(11/12):1113-1115 1981

Asbestos-induced peritoneal mesothelioma 10-24 serially transplanted in Syrian golden hamsters was used to test responses to seven drugs as single agents. Compared to saline-treated controls, the av survival time increased 51%-85% with azacitidine, 42%-60% with aziridinyl-benzoquinone, 43% with cisplatin, and 35%-45% with PCNU. No cures were achieved. Therapeutic responses were not observed with dactinomycin, dianhydroxyanthracenedione, or DTIC. (Author abstract) (4 Refs)

18. AUTORADIOGRAPHIC IN VITRO STUDY OF THE CELL KINETICS OF OSTEOGENIC SARCOMAS AND EWING'S SARCOMAS IN CHILDREN.

Willnow U
Center Child's Medicine, Clinic Pediatric Surgery, Karl Marx Univ., Oststr. 21-25, 7050 Leipzig, E. Germany
Arch Geschwulstforsch; 52(1):9-16 1982

Cellular kinetic parameters of osteogenic sarcoma (OGS) and Ewing's sarcoma (ES) were studied by autoradiographic methods in cultures of tumors from children. Non-necrotic tissue samples were obtained from marginal tumor regions of nine OGS (6 primary tumors and 3 pulmonary metastases) and three ES. Rapid growth of OGS was indicated by a [3H]thymidine-labeling index (TLI) of 4.9-36.1% (av 13.8%), DNA synthesis time (DST) of 8.1-18.2 hr (av 12.2 hr), mean cell cycle time (MCCT) of 10.1-124.6 hr (av 58.0 hr), and av mitosis time (MT) of 1.1 hr. The OGS growth fraction was estimated at 0.5, with a tumor doubling time (TDT) of 17.6-260.9 hr (av 114.5 hr). One ES showed rapid growth; two ES showed moderate growth. ES parameters included TLI of 11.3, 8.3, and 6.8%, TDT of 2.6, 5.8, and 6.5 days, MCCT of 44.2, 89.2, and 101.3 hr, av DST of 14.4 hr, and av MT of 1.9 hr. Cell kinetic therapy indices were 0.19-1.0 for OGS and 0.26-0.36 for ES, indicating good to excellent sensitivity to cytostatic agents. (46 Refs)

REVIEWS

19. OPPORTUNISTIC INFECTIONS AND KAPOSI'S SARCOMA IN HOMOSEXUAL MEN.

Durack DT
Duke Univ. Medical Center, Durham, NC, 27710
N Engl J Med; 305(24):1465-1467 1981

Current data and theories concerning opportunistic infections and Kaposi's sarcoma in homosexual men are reviewed. Patients are typically young and live in large cities, and many use drugs. Infectious agents are low grade pathogens that often cause opportunistic infections in compromised hosts, and the death rate is very high. The immunodeficiency is cellular rather than humoral, and the gap in host defenses is not limited to those against any one class of microbe. Evidence of previous or current cytomegalovirus infection is a common finding. Kaposi's sarcoma is found in young Africans, elderly Americans, renal-transplant recipients, and homosexual men. The discovery of cytomegalovirus genome in Kaposi's sarcoma tissue indicates the possibility of a cause-effect relationship between the virus and the tumor; some new factor may have distorted the host-parasite relation. Recreational drugs such as amyl nitrite may combine with the effects of persistent viral infection to cause immunosuppression in some genetically predisposed men. (16 Refs)

20. BONE, MUSCLE, SOFT TISSUE WORKSHOP.

Brady LW, Suit H
Dept. Radiation Therapy, Nuclear Medicine, Hahnemann Medical Coll. and Hosp., Philadelphia, PA, 19102
Cancer Clin Trials; 4(Suppl):9-13 1981

The effects of radiation therapy on bone, muscle, and soft tissue are reviewed. Functional staging systems are proposed for changes and abnormalities which appear following radiation therapy. The stages range from 0 no discernible change, to 3, severe functional changes necessitating further corrective treatment and altering lifestyles. The effects of radiation treatment on the epiphyseal growth centers can lead to diminished vertebral body growth, and subsequent shortening of stature is a significant consideration in the treatment of children. The potential for the development of malignant disease within the irradiated field has led to the establishment of criteria for diagnosing radiation induced sarcomas. Documentation of the radiation dose must exist. The induced sarcoma must be within the irradiated field. The interval between the original treatment and the subsequent development of a second tumor must occur a t greater than 3.5-4 yr following treatment. There must be histologic confirmation of a different cell type from that of the original primary tumor. Genetic abnormalities and patient age at the time of original treatment are factors which may influence the development of a sarcoma. (13 Refs)

☆ U. S. GOVERNMENT PRINTING OFFICE : 1982—361-847/116

AUTHOR INDEX WITH CITATION NUMBERS

Adelsberg BR 14
Agnantis NJ 7
Apostolikas N 7
Armstrong D 14
Balthazar EJ 6
Brady LW 20
Brettman L 13
Brown AE 14
Brown JM 8
Calcaterra T 12
Cunningham-Rund 13
Cunningham-Rund 14
Cunningham-Rund 14
Davis CJ 4
Davis S 17
Dawson E 12
DiGiovanna JJ 16
Durack DT 19
Eilber FR 9
Elwood PW 3
Fan PT 15
Feldman AC 1
Fierer JA 3
Fornasier VL 2
Friedman AC 4
Gold J 14
Goldman SM 4
Gottlieb MS 15
Grant TT 9
Greene JB 13
Hammer GS 14
Hartman DS 4
Harwood AR 2
Hassett J 14
Hirschman SZ 14
Holiat SM 17
Holzman RS 13
Hubert DD 17
Hyatt CL 8
Kalyanaraman UP 3
Kaplan RK 1
Kornfeld SJ 14
Krajbich JI 2
Lange M 13
Lopez C 14
Madewell JE 4
Masur H 13
Michelis MA 13
Mirra JJ 9
Mirra JM 12
Morton DL 9
Murray HW 13
Onorato I 13
Orsini JM 11
Pandey AK 5
Pandey S 5
Parham DM 14
Perloff M 11
Pupp GR 1
Rand F 12
Rand R 12
Rickles D 9
Rosenberg SA 8
Rybak B 11
Safai B 16
Sauvegrain J 10
Saxon A 15
Schanker HM 15
Schroff R 15
Sener SF 8
Sherman JL 4
Siegal FP 14
Siegel M 14
Smith WE 17
Steinberg M 9
Stouwe RA 13
Suit H 20
Taraska JJ 3
Terry WD 8
Vacher H 10
Vacher-Lavenu M 10
Weisenburger TH 9
Weisman JD 15
Willnow U 18
Wolf RA 15
Wormser G 13

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S.MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). CANCERGRAMS are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

CT 12/82/05

NCI/ICRDB/CT12 82/05

PB82-938705

ICRDB CANCERGRAM

INTERNATIONAL CANCER RESEARCH DATA BANK

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/05

MAY, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SEN[illegible], M.D.

NEWARK PUBLIC LIBRARY
JUN 9 1982
U. S. GOVT. PUBS.
DEPOSITORY 376

NOW AVAILABLE: COMPILATION OF EXPERIMENTAL CANCER THERAPY PROTOCOL SUMMARIES, 1982. FOR A COMPLIMENTARY COPY, CONTACT ICRDB PROGRAM, WESTWOOD BLDG., RM. 10A18, BETHESDA, MD. 20205

In this issue:

- DIAGNOSIS 1-10
- CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY 11-12
- CHEMOTHERAPY 13-15
- RADIOTHERAPY 16-18
- SURGERY 19
- OTHER THERAPEUTIC MODALITIES 20
- MULTIMODAL THERAPY 21-29
- CASE REPORTS 30-34
- SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY 35-37
- SELECTED PRE-CLINICAL STUDIES 38-41
- REVIEWS 42-43

DIAGNOSIS

1. EXTREMITY LESIONS IN THE INTERGROUP RHABDOMYOSARCOMA STUDY (IRS-I): A PRELIMINARY REPORT.

Hays DM, Soule EH, Lawrence W, Gehan EA, Maurer HM, Donaldson M, Raney RB, Tefft M, Crist WM, Hammond D, Heyn R, Lindberg R, Newton W, Ragab AH, Ruymann T, Sutow WW

Childrens Hosp. Los Angeles, 4605 Sunset Blvd., Los Angeles, CA, 90027

Cancer; 49(1):1-8 1982

The sites in which rhabdomyosarcoma occurs most frequently in children and young adults are the head and neck, genitourinary tract, and the extremities. Among these three sites,

HE 20. 3173/2:

tumors of the extremities have been associated with the highest relapse rate and lowest survival rate in patients treated by protocols of the Intergroup Rhabdomyosarcoma Study (IRS). In five of six patients treated by primary extremity amputation, tumor recurred. Seven of 21 patients in Clinical Group I (completely resected tumors), and 9 of 27 patients in Clinical Group II (patients with gross tumor excision but positive lymph nodes, 'microscopic residual' disease, or extension beyond the muscle of origin) had relapses. Thirteen of 18 patients (72%) in Clinical Group III (gross residual disease) responded to a chemotherapy-radiotherapy regimen, but 10 have subsequently had relapses; and 13 of 18 are dead. Of 30 patients in Clinical Group IV (disseminated disease on entry), 15 initially responded to chemotherapy, but 25 of 30 are dead. The period of surveillance is 2 1/2 to 7 1/2 yr, with a mean of 46.3 mo at last examination. Increased rates of relapse were seen in patients with extremity tumors, as opposed to tumors in other sites, irrespective of the specific IRS chemotherapy-radiotherapy regimen employed. In Clinical Group I (nonamputation), relapse rates by histologic subtype of rhabdomyosarcoma were alveolar subtype, 5/8; embryonal, 1/7; and all other subtypes, 1/6. In Clinical Group II, relapse rates were alveolar, 6/12; embryonal, 5/11; all other subtypes, 3/10. (Author abstract) (26 Refs)

2. OROFACIAL SYNOVIAL SARCOMA. A CLINICOPATHOLOGIC STUDY OF 11 CASES (MEETING ABSTRACT).

Shmookler BM
Soft Tissue Pathology Branch, Armed Forces Institute of Pathology, Washington, DC, 20306
Am J Clin Pathol; 76(3):351 1981

A rare group of 11 synovial sarcomas restricted to the orofacial region was analyzed. The series comprised nine males (82%) and two females (18%) whose ages ranged from 16-49 yr (median 34). Topographically, two subsets were delineated, a more common facial group with eight cases, all arising as gradually enlarging solitary tumors and three intraoral ones, two of which were polypoid and one, an exophytic tonsillar mass, presented with hemoptysis and stridor. Follow up data, obtained for nine patients (range 1.3-15 yr), disclosed 3 (33%) tumor-related deaths, all belonging to the facial group. Grossly, the firm, often lobulated tumors, infrequently appearing partially encapsulated, ranged, in greatest dimension, from 1.2 cm-5 (mean 3.8). Histologically, all the neoplasms revealed characteristic biphasic features, predominantly fibrosarcomatous in one, but, more typically, showing clefts and/or pseudoacinar spaces. A focal pericytoma-like pattern distinguished three lesions; two others revealed a distinctive tumoral calcification. Differential diagnosis, depending on the proportion of the biphasic components, ranged from spindle cell mesenchymal neoplasms to various adenocarcinomas including those arising in mixe d tumors of salivary gland. (no Refs)

3. BOTRYOID RHABDOMYOSARCOMA OF THE BILIARY TRACT. REPORT OF FIVE PATIENTS WITH ULTRASTRUCTURAL OBSERVATIONS AND LITERATURE REVIEW.

Lack EE, Perez-Atayde AR, Schuster SR
Dept. Pathology, Children's Hosp. Medical Center, 300 Longwood Ave., Boston, MA, 02115
Am J Surg Pathol; 5(7):643-652 1981

Clinical manifestations and ultrastructure of botryoid rhabdomyosarcoma of the biliary tract in five children (3 boys, 2 girls; aged 1.5-5.5 yr) are reported. Tumors were located in the cystic duct (1), extrahepatic bile ducts (2), and common bile duct (2); duration of symptoms (obstructive jaundice, nausea, vomiting, and fever) ranged from 2 wk to 4 mo. All children underwent exploratory laparotomy. Three patients with inoperable tumors died within 4 wk to 6 mo after laparotomy. One child was subjected to hepatectomy and modified Whipple's resection (the patient died 2 wk postoperatively), and one child underwent liver resection and postoperative radiotherapy and chemotherapy (the patient was free of disease 14 mo after the treatment). Electron microscope examination of tumor cells showed marked variation in the degree of differentiation. Marked anaplasia of cells within the cambium layer hindered the classification. (21 Refs)

4. MYOSARCOMAS OF THE STOMACH: NATURAL HISTORY, PROGNOSTIC FACTORS AND MANAGEMENT.

Shiu MH, Farr GH, Papachristou DN, Hajdu SI
Dept. Surgery, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 49(1):177-187 1982

A retrospective study was made of 41 patients treated for gastric myosarcoma to identify prognostic factors that influence results. The adjusted 5-and 10-yr survival rates were 56% and 43% respectively, with no significant difference between leiomyosarcoma and malignant leiomyoblastoma. A histopathologic grade of malignancy could be assigned to each tumor according to the degree of hypercellularity, nuclear abnormality, mitotic rate and other characteristics. High histopathologic grade, large tumor size (greater than 5 cm diameter) and invasion of adjacent organs adversely affected prognosis. Five-yr survival after curative treatment was: 100% (9/9) for small tumors, of which six were treated by wedge gastric resection; 67% (8/12) for large tumors, mostly after subtotal gastrectomy; and 0% for tumors that invaded adjacent organs, despite extended resections. It is concluded that the management of gastric myosarcomas can be planned according to these prognostic factors and that multimodal therapy of tumors with adverse factors warrants consideration. (Author abstract) (26 Refs)

5. GASTRIC LEIOMYOSARCOMA: CLINICAL AND PATHOLOGICAL REVIEW OF FIFTY PATIENTS.

Lindsay PC, Ordonez N, Raaf JH
(c/o Raaf) Dept. Surgery, Memorial Sloan-Kettering Cancer Center, 1275 York Ave. , New York, NY, 10021
J Surg Oncol; 18(4):399-421 1981

Fifty patients with gastric leiomyosarcoma seen at M D Anderson Hospital between 1957 and 1978 were reviewed. Symptoms included weakness, gastrointestinal bleeding, and epigastric pain. An upper abdominal mass or tenderness was the most frequent physical finding. Laparotomy was performed in all patients, with gastric resection in 86%, and resection for cure in 68%. Survival after distal subtotal gastric resection (mean: 62 mo) was longer than after proximal subtotal (30 mo) or wedge resection (46 mo). The 5-yr survival was 19% for all patients, and 32% for those operated on for cure. A favorable prognosis was predicted by mild atypia or few mitoses (Grade 1). No differences in survival were demonstrated between patients with tumors of different cell types (epithelioid, spindle, or pleomorphic). No lymph node in any patient contained metastatic tumor, suggesting a lymph node dissection need not be performed. Commonly, tumor spread was to liver or lungs or by direct invasion of contiguous tissue or organs. Radiotherapy and chemotherapy are of limited value in treating unresectable disease. If possible, both the primary lesion and recurrent tumor should be widely resected. (Author abstract) (17 Refs)

6. TEN CASES OF LEFT ATRIAL MYXOMA - SURGICAL CONSIDERATIONS.

Shimizu T, Iyomasu Y, Abe T, Murase M, Tanaka M, Takeuchi E, Hotta A, Nakashima N, Fukuta I, Hiramatsu H
First. Dept. Surgery, Nagoya Univ. Sch. Medicine, Nagoya, Japan
Nippon Kyoba Seka Gakkai Zasshi; 29(1):109-117 1981

Among 10 patients (8 women, 2 men; 16-59 yr old) who were treated surgically for left atrial myxoma, the primary complaints included palpitation (4 patients), accelerated breathing (3), palpitation during strenuous work (1), easy fatiguing (1), papilloma (1), and breathing difficulty (3); one patient had no primary complaint. During the 6-mo to 5-yr follow-up study, one of the patients died of cerebral embolism that might have been due to fragments of the resected tumor, and another died of cardiac failure caused by a left, posterior atrial wall hematoma occurring after annuloplasty for mitral regurgitation. Six of the patients were well following the surgical treatment and returned to normal activities. Various surgical considerations were thought to be important. To adequately expose the left atrial cavity, a combination of longitudinal incision along the retroauricular groove and incision at the atrial septum or transverse incision of the left and right atria and the atrial septum were suggested. A basket-type mesh should be used to hold the tumor during extirpation in order to prevent embolism due to tumor fragments. If the stalk of the tumor is attached to the fossa ovale, the fossa may be completely resected, but if the stalk is on the muscular septum, wide resection of the endocardium alone was recommended. (41 Refs) (In JPN)

7. DIAPHYSEAL OSTEOSARCOMA.

Haworth JM, Watt I, Park WM, Roylance J
Dept. Radiology, Bristol Royal Infirmary, Bristol, England
Br J Radiol; 54(647):932-938 1981

Fifteen cases of diaphyseal osteosarcomas were found in a review of 157 cases of long bone osteosarcoma (9.5%) and two further examples were added. The clinical and histological features of the diaphyseal osteosarcomas were indistinguishable from those of the commoner juxta metaphyseal osteosarcomas. The radiological features, however, fell into four distinct patterns: Group I had the classical appearance of a conventional osteosarcoma; Group II showed dense cortical sclerosis with bony expansion but no soft tissue swelling or break of the cortex at presentation; Group III presented with a pathological fracture through a purely osteolytic lesion; Group IV usually had the classical appearances of an osteosarcoma in the diaphysis but had, in addition, dense separate sclerotic lesions which were proximal to the tumor in the humerus and distal to it in the femur. The importance of these four groups lies in the quite distinct differential diagnosis which each presents. (Author abstract) (7 Refs)

8. MALIGNANT FIBROUS HISTIOCYTOMA OF THE BONE.

Blinov VM, Pavlovskaia AI, Solov'ev IuN
Dept. Human Tumors Pathology, All-Union Cancer Res. Center, Moscow, USSR
Arkh Patol; 43(10):25-33 1981

A group of 10 patients (9 men, 1 woman; 15-49 yr old) with malignant fibrous histiocytoma of the bone is reviewed. Predominant tumor location was femur (4) and tibia (3). Time period between the pain onset and surgery was 2-18 mo. X-ray findings included the lesion with irregular contour, destruction of the cortical layer, and periosseous reaction. Eight patients underwent radical surgery (3/8 received pre- or postoperative radiotherapy with total dose of 3,000-13,000 rads, and 2/8 received chemotherapy). Four patients died of lung metastases 5-27 mo after the surgery. Histological examination of surgery specimens showed cell dimorphism (presence of spindle-like fibroblasts and polymorphic histiocytes). Electron microscope examination of two specimens showed the presence of histiocyte-like, fibroblast-like, poorly differentiated polynuclear, and xanthoma-like cells. (24 Refs) (In RUS)

9. CLINICAL-PATHOLOGICAL DETERMINANTS IN PROGNOSIS OF FIBROUS HISTIOCYTOMAS OF HEAD AND NECK.

Blitzer A, Lawson W, Zak FG, Biller HF, Som ML

Dept. Otolaryngology, Coll. Physicians and Surgeons, Columbia Univ., 630 West 168th St., New York, NY, 10032

Laryngoscope; 91(12):2053-2070 1981

Review of the literature reveals 76 cases of fibrous histiocytoma of the deep structures of the head and neck. To this we have added 11 of our own cases, and analyzed the total group to determine clinical and histological features of a high risk population. Age, sex, presence of pain, location of tumor, size of tumor, and local invasion appear to be important clinical criteria. Bizarre giant cells, numerous and atypical mitoses, necrosis, and inflammation appear to be important histologic features. The treatment of choice is wide local excision. Chemotherapy appears to produce tumor regression. (Author abstract) (53 Refs)

10. POSTIRRADIATION MALIGNANT FIBROUS HISTIOCYTOMA OF SOFT TISSUES. LIGHT AND ULTRASTRUCTURAL OBSERVATIONS OF TWO CASES (MEETING ABSTRACT).

Sebek BA

Department of Pathology, The Cleveland Clinic Foundation, Cleveland, OH, 44106

Am J Clin Pathol; 76(3):353 1981

The occurrence of sarcoma in soft tissues subjected to ionizing irradiation is a well-documented but rare event. The English literature contains only four reports (nine cases) of postirradiation malignant fibrous histiocytoma (MFH) of soft tissues. This study reports two cases of MFH of thoracic soft tissues who developed after radiation therapy for carcinomas. One tumor occurred in a 51-yr-old black women in the parasternal area eight yr after postoperative radiation therapy (4400 rads) to internal mammary lymphatics for infiltrating duct carcinoma of breast. The other developed in a 63-yr-old black man overlying the dorsal thoracic spine five yr after radiation therapy (4840 rads) for an undifferentiated small cell carcinoma of lung. Both tumors had a typical light microscopic appearance of MFH. Ultrastructurally the lesions were composed of different proportions of fibroblast- and histiocyte-like cells. Intermediate, undifferentiated, myofibroblastic, and tumor giant cells were also present. These findings conform with the concept that MFH originates from undifferentiated mesenchymal cells with a broad range of differentiations. Both cases fulfill accepted criteria for a diagnosis of radiation induced sarcoma. (no Refs)

CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY

11. OSTEOSARCOMA PATIENTS: ISOLATION OF SERUM ANTIBODIES BY AFFINITY CHROMATOGRAPHY.

Tsang KY, Fudenberg HH, Gnagy MJ

Dept. Basic and Clinical Immunology and Microbiology, Medical Univ. South Carolina, Charleston, SC, 29403

JNCI; 67(6):1183-1189 1981

Antibodies specific for membrane-associated antigens of human osteosarcoma cells were isolated from sera of 12 patients with (OS). Affinity columns were prepared by coupling partially purified membrane antigens from cultured human OS cell lines (TE-85 or LM) to CBrN-activated Sepharose 4B. The antigens were prepared by discontinuous sucrose gradient ultracentrifugation, papain digestion, and DEAE column chromatography. Diluted serum was passed over the affinity columns, and the adsorbed proteins were eluted with 2.5 M $MgCl_2$ (pH 6.5). Immunodiffusion, indirect immunofluorescence, and complement fixation were used to assay antibody activity in the eluate. Specific anti-OS activity was found in the immunoglobulin (Ig) fraction isolated from the sera of the 12 OS patients, as confirmed by blocking experiments. No anti-OS antibody activity was found in sera from healthy individuals or patients with breast carcinoma, clear cell carcinoma, liposarcoma, or leukemia in this study. The anti-OS activity of the isolated Ig from OS patients was abolished after absorption with cultured human OS cells from lines LM, TE-85, or G292 but not after absorption with cells from lines WI-38 (embryonic lung), TE-32 (rhabdomyosarcoma), CAMA-1 or SW527 (breast carcinoma), or M-14 (melanoma). Absorption with rabbit antihuman IgG but not with rabbit antihuman IgM immunobeads completely eliminated the antibody activity. (Author abstract) (36 Refs)

12. DETECTION OF HUMAN OSTEOSARCOMA-ASSOCIATED ANTIGEN(S) BY MONOCLONAL ANTIBODIES.

Hosoi S, NakamuraT, Higashi S, Yamamuro T, Toyama S, Shimomiya K, Mikawa H

Dept. Pediatrics, Univ. Kyoto, Sakyo-ku, Kyoto 606, Japan

Cancer Res; 42(2):654-659 1982

Hybrid cell lines have been derived from a fusion between mouse myeloma cells, NS1, and spleen cells from mice immunized with freshly resected osteosarcoma cells from an untreated patient. Of the 276 hybrids obtained, five secreted antibodies which bound to osteosarcoma tissues but not to autologous skin fibroblasts. The antibodies from three of these five hybrids, OST6, OST7, and OST15, reacted with all of five osteosarcoma tissues and with one chondrosarcoma tissue but not with other malignant or benign tumors. Tests of various normal tissues were negative, except for weak binding to a subpopulation of chondrocytes in articular cartilage. The reciprocal binding inhibition test showed that OST6, OST7, and OST15 antibodies were directed against different antigenic determinants. (Author abstract) (24 Refs)

CHEMOTHERAPY

13. ADJUVANT CHEMOTHERAPY OF SOFT-PART SARCOMAS WITH ALOMAD (S4).

Sordillo PP, Magill GB, Shiu MH, Lesser M, Hajdu SI, Golbey RB
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Surg Oncol; 18(4):345-353 1981

Sixty-four adult patients with soft-tissue sarcomas received adjuvant chemotherapy with a six-drug combination regimen after surgery. Seventy percent remain free of disease with a median follow-up of 50 mo. Only seven patients have died of their disease, all within the first 24 mo after surgery. Most patients experienced severe nausea and vomiting secondary to the actinomycin D and dacarbazine parts of the protocol, and three patients experienced frank Adriamycin cardiomyopathy. Toxicity from this combination was otherwise mild. The 58% recurrence rate of 12 patients who discontinued therapy early because of nausea was significantly greater than the 23% rate for those who completed or relapsed on therapy ($p = 0.01$). Adjuvant chemotherapy should be considered after surgery for patients with soft-part sarcomas, especially those with high-grade tumors that have a considerable risk of recurrence. (Author abstract) (18 Refs)

14. PREDNIMUSTINE IN ADVANCED SOFT TISSUE SARCOMAS.

Karakousis CP, Didolkar MS, Ambrus JL, Holyoke ED
Dept. Surgical Oncology, Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
Cancer Treat Rep; 66(1):201-202 1982

Efficacy of prednimustine (25 mg/square meter, po, daily) was evaluated in 25 patients (11 men, 14 women; age 19-85 yr) with metastatic soft tissue sarcoma. Duration of the treatment ranged from 4 to 110 wk. The overall response rate was 12% (3/25): one patient had complete response and two had partial response. Granulocytopenia was observed in one patient. (4 Refs)

15. ADRIAMYCIN VERSUS CARMINOMYCIN IN ADVANCED SOFT TISSUE SARCOMAS. A PRELIMINARY ANALYSIS OF THE EORTIC SOFT TISSUE AND BONE SARCOMA GROUP (MEETING ABSTRACT).

Mouridsen HT, Bramwell V, Mulder JH, Santoro A, Van Oosterom AT, Somers R, Davy M, Pinedo HM
No affiliation given
Third NCI-EORTC Symposium on New Drugs in Cancer Therapy, October 15-17, 1981, Brussels, Belgium European Organization for Research on Treatment of Cancer; A58 1981

Patients of the age 15-80 yr with advanced soft tissue sarcomas, previously untreated with cytotoxic agents, entered the trial provided they had measurable disease, performance status greater than or equal to 50, normal bone marrow function and had given their verbal informed consent. From 03/1980 to 11/1980, 83 patients were included and randomized to treatment with adriamycin (ADM) 75mg/m2 q 3 wk, or carminomycin (CMM) 20 mg/m2 q 3 wk. The two groups were identical as regards median age and performance status but the sex distribution differed with 40% males and 60% females in the ADM group compared to 60% males and 40% females in the CMM group. At the time of this analysis, the response to treatment could be evaluated in 73 of the patients. In treatment with

ADM, response was achieved in 11 patients. Eighteen (47%) had no change (NC) and 9 (24%) progressive disease (PD). In comparison only 1 patient responded to CMM. In this group 18 patients (51%) had NC and 16 patients (46%) PD. In the ADM group, 2-10 courses, median 5 courses, with a median dose per course of 73mg/m2 was administered, and in the CMM group, 2-13 courses, median 3 courses, with a median dose per course of 20 mg/m2. Hematological toxicities were equally pronounced in the two groups whereas subjective adverse effects (nausea, vomiting, anorexia, mycositis, diarrhea) and alopecia were significantly more pronounced in the ADM group. No cardiac disturbances ascribable to the drugs were observed. (no Refs)

RADIOTHERAPY

16. SOFT TISSUE ANGIOSARCOMAS.

Morales PH, Lindberg RD, Barkley HT
(c/o Lindberg) Dept. Clinical Radiotherapy, Univ. Texas M. D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Int J Radiat Oncol Biol Phys; 7(12):1655-1659 1981

Twelve cases of soft tissue angiosarcoma are reported. Six of these involved primary tumors of the head and neck, including four in the scalp, one in the tongue, and one in the maxillary antrum. Scalp tumors were multifocal and in two cases involved metastastic lymph nodes. Primary treatment consisted of irradiation (5,000-7,000 rads in 5.5 or 6.5 wk) of all or part of the scalp. Three cases showed complete regression, but all showed recurrence within 13 mo of treatment. One patient with a tumor of the oral tongue was treated by excisional biopsy followed by 6,000 rads irradiation; the patient was free of disease 192 mo after treatment. One patient with a tumor of the maxillary antrum was treated by partial maxillectomy followed by 6,000 rads irradiation; the patient was free of disease 117 mo after treatment. Four cases involving breast tumors were treated by varying degrees of surgery, postoperative radiotherapy, and in one case chemotherapy. Three patients were free of disease 34-76 mo after treatment; one patient had a second primary tumor 80 mo after treatment. Two patients with tumors of the thigh were treated with wide excision followed by 5,000 rads to the tumor and a 1500 rad scar boost. One was free of disease 53 mo after treatment. One had a recurrence at 26 mo, which was treated by hip disarticulation at 26 mo and hemipelvectomy at 34 mo; the patient was free of disease 46 mo after initial treatment. (21 Refs)

17. KAPOSI'S SARCOMA. AN UPDATE ON THE RESULTS OF EXTENDED FIELD RADIOTHERAPY.

Harwood AR
Princess Margaret Hosp., 500 Sherbourne St., Toronto M4X 1K9, Ontario, Canada
Arch Dermatol; 117(12):775-778 1981

This report reviews the results of extended field radiotherapy (EFR) in the treatment of Kaposi's sarcoma. During the 22-yr period that is under study, 54 patients with Kaposi's sarcoma were seen and 38 were treated with EFR. Thirty patients had spontaneous Kaposi's sarcoma and eight had received immunosuppressive therapy. Extended field radiotherapy is compared with both local methods of radiation and chemotherapy in the treatment of Kaposi's sarcoma. It was concluded that EFR is the treatment of choice because of its simplicity, high disease-control rate, and lack of complications in patients without systemic disease manifestations. (Author abstract) (5 Refs)

18. NEUTRON IRRADIATION IN THE MANAGEMENT OF PRIMARY BONE TUMOURS (MEETING ABSTRACT).

Schmitt G, Higi M, Seeber S, Scherer E

Strahlenklinik und Innere Klinik, Essen, W. Germany

UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland . International Union Against Cancer 131 pp., 1981.

Between November 1978 and March 1981, 24 patients with primary bone tumors received neutron irradiation in a pilot study. The rationale for this treatment is the favorable kerma for neutrons in bone, which is approx 20% lower than in soft tissue. Nine patients had undegone microscopically subtotal surgery, the others had refused radical surgery. The histological diagnoses were: osteosarcoma (10), chondrosarcoma (8), fibrosarcoma (2), angiofibrosarcoma (1), spindle cell sarcoma (1), hemangiopericytoma (1), and leiomyosarcoma (1). The neutron dose was 16 Gray (Gy) TED (total effective dose) in 19 patients and 14.4 Gy TED in one further patient. Four patients got a neutron boost of 8, 10 and 12 Gy TED after previous photon irradiation with 24 and 40 Gy respectively. All patients with osteosarcoma received adjuvant chemotherapy, as well as one patient with chondrosarcoma, spindle cell sarcoma, fibrosarcoma and hemangiopericytoma. After a mean follow up period of 10 mo (range: 1-26 mo) two patients have died, one from metastases and one from uncontrolled primary. In two cases amputation was required, both of them revealed viable tumor cells in the target vol. Two further patients are alive with no tumor regression (failures), six others with partial tumor regression (tumor vol less than or equal to 50% of the original extent). At the present time, 12 patients are alive without evidence of recurrence, 9 of them after previous surgery. (no Refs)

SURGERY

19. TREATMENT OF OSTEOSARCOMATA OF THE DISTAL FEMUR BY ROTATION-PLASTY.

Salzer M, Knahr K, Kotz R, Kristen H

Allgemein-orthopadische Abteilung, Orthopadischen Krankenhauses Wien-Gersthof, Wielemansgasse 28, A-1180 Wien, Austria

Arch Orthop Trauma Surg; 99(2):131-136 1981

Fifteen patients (10 males, 5 females; 6-32 yr old) with osteosarcoma of the distal femur underwent resection of the tumor followed by rotation-plasty (rotation of the lower leg after resection of the distal femur so that the ankle joint is effectively made into a 'knee joint'). Of 15 patients, 3 died of lung or bone metastases 24-25 mo postoperatively. Twelve patients were free of disease for 6 to 63 mo; all patients achieved an active 'knee flexion' of 70-90 degrees. (26 Refs)

OTHER THERAPEUTIC MODALITIES

20. CLINICAL HYPERTHERMIA: RESULTS OF A PHASE I TRIAL EMPLOYING HYPERTHERMIA ALONE OR IN COMBINATION WITH EXTERNAL BEAM OR INTERSTITIAL RADIOTHERAPY.

Manning MR, Cetas TC, Miller RC, Oleson JR, Connor WG, Gerner EW
Radiation Oncology Div., Univ. Arizona Health Sciences Center, Tucson, AZ, 85724
Cancer; 49(2):205-216 1982

Forty-three patients with advanced, locally accessible neoplasms were treated in a Phase I clinical trial employing hyperthermia alone or hyperthermia combined with either high-dose-rate external beam or low-dose-rate interstitial radiotherapy (interstitial thermoradiotherapy). All patients had failed previous conventional therapeutic attempts, including various combinations of surgery, chemotherapy and radiation therapy. A number of tumors with different histologies were treated, including squamous cell carcinoma, adenocarcinoma, melanoma, malignant fibrous histiocytoma, and sarcoma. The response evaluation criteria used included no response (NR- less than 50% decrease in tumor vol), partial response (PR-50% less than or equal to tumor vol reduction less than 100%) and complete response (CR-complete tumor disappearance). For all tumor types, hyperthermia therapy alone resulted in a total response rate of 45% (27% PR, 18% CR). Hyperthermia combined with high-dose-rate external beam radiotherapy yielded a total response rate of 80% (53% PR, 27% CR). Seventeen patients treated with interstitial thermoradiotherapy displayed a 100% total response rate (29% PR, 71% CR). By tumor histologies for all treatment groups, total response rates have ranged from 50 to 79% for all types except melanoma, which has shown a 100% (8/8) response rate to date. Response durations have varied from 1 to 24 mo. Twelve of the 43 patients remain alive; 3 have no evidence of disease (NED) while 9 have either stable local disease or are NED in the treated vol but have metastatic disease. Complications have been minimal. The results of this Phase I trial demonstrate that hyperthermia alone or combined with radiation can be safely applied in the treatment of malignant disease. Most importantly, the data suggest that hyperthermia, especially when combined with interstitial thermoradiotherapy, can yield remarkable results in the eradication of local cancers. (35 Refs)

MULTIMODAL THERAPY

21. EFFECTS OF POSTOPERATIVE ADJUVANT CHEMOTHERAPY AND RADIOTHERAPY ON OVARIAN FUNCTION IN WOMEN UNDERGOING TREATMENT FOR SOFT TISSUE SARCOMA.

Shamberger RC, Sherins RJ, Ziegler JL, Glatstein E, Rosenberg SA (c/o Rosenberg) Surgery Branch, Div. Cancer Treatment, NCI, NIH, Public Health Service, U.S. Dept. Health and Human Services, Bethesda, MD, 20205
JNCI; 67(6):1213-1218 1981

Ovarian function was evaluated in 11 women 16 to 43 yr of age at treatment who received doxorubicin, cyclophosphamide, and high doses of methotrexate with or without radiotherapy in adjuvant therapy of soft tissue sarcoma. Five women (16-33 yr old) who received chemotherapy alone or combined with radiotherapy only at sites distant from the ovaries (chest wall, thigh, and leg) had minimal menstrual irregularities or temporary cessation of menses during therapy; cyclic menses returned promptly after therapy. Gonadotropin levels (expressed as means +- SD) [follicle-stimulating hormone (FSH), 10 +-5 mIU/ml; luteinizing hormone (LH), 10 +-4 mIU/ml] and 17beta-estradiol (E2) levels (means +- SD, 208 +-147 pg /ml) were normal. By contrast, four older women (ages 36-43 yr) who received similar treatment developed persistent amenorrhea with postmenopausal levels of gonadotropin (FSH, 108 +-29 mIU/ml; LH, 72 +-19 mIU/ml) and E2 (19 +-8 pg/ml). Two additional women (ages 21 and 39 yr) who received radiation (7,000 rad) to the pelvis plus chemotherapy developed prompt cessation of menses and became functional castrates (FSH, 77 and 80 mIU/ml; LH, 40 and 58 mIU/ml; E2, 10 and 19 pg/ml). However, this result would be expected from the radiation dose alone. The data demonstrated that ovarian dysfunction may follow the use of doxorubicin, cyclophosphamide, and high doses of methotrexate and that the injury is age related. (Author abstract) (35 Refs)

22. CHORDOMA.

Reddy EK, Mansfield CM, Hartman GV
Coll. Health Sciences, Dept. Radiation Therapy, Univ. Kansas, 39th and Rainbow Blvd., Kansas City, KS, 66103
Int J Radiat Oncol Biol Phys; 7(12):1709-1711 1981

Clinical presentation and management of 10 patients (3 males and 7 females, 14-73 yr old, median 40.5 yr old) with chordoma are reported. Five patients had cranial tumors (in the clivus or parasellar area), one had a lumbar tumor, and four had sacral or sacrococcygeal tumors. Three patients had biopsy as the only surgical procedure; six patients underwent subtotal resection of the tumor mass. Eight patients received radiation therapy (RT: 4,200-8,000 rads in 4-8 wk). Av follow-up was 7 yr, with a minimum of 3 yr. Four patients were alive and disease-free at 3-15 yr; three of these had been treated by surgery and postoperative RT and one had received RT only. Six patients died of disease at 2-13 yr; four of these received RT (2 for tumor recurrence). Death resulted from local disease in five cases and from lung and liver metastases in one case. Treatment by surgery combined with aggressive RT (6,500-7,000 rads in 6-7 wk) is recommended. (16 Refs)

23. LOCALIZED EWING SARCOMA: RESULTS OF INTEGRATED THERAPY AND ANALYSIS OF FAILURES.

Gasparini M, Lombardi F, Gianni C, Fossati-Bellani F
Dept. Pediatrics, Istituto Nazionale per lo Studio e la Cura dei Tumori, Via Venezian, 1-20133 Milan, Italy
Eur J Cancer Clin Oncol; 17(11):1205-1209 1981

From 1974 to 1978 thirty-four consecutive patients with clinically localized Ewing sarcoma were treated with local therapy (radiotherapy: 33 patients; surgery: 1 patient), followed by adjuvant chemotherapy (adriamycin, vincristine, cyclophosphamide). All patients underwent a complete clinical remission. Actuarial relapse-free survival is 53% at 4 yr. Reasons of first treatment failure were: local recurrence in 2 (6%) and distant metastases in 12 (35%) patients. The worst prognosis was related to the location of the primary tumor in the axial skeleton and to the administration of inadequate radiotherapy. It is suggested that incomplete eradication of the primary tumor may be responsible for metastatic seeding before, or without, clinical evidence of local reactivation at the primary site. (Author abstract) (24 Refs)

24. EWING'S SARCOMA: 5-YEAR SURVIVAL UNDER ADJUVANT CHEMOTHERAPY.

Le Mevel BP
Centre Rene Gaunducheau, Quai Moncousu, F-44035 Nantes Cedex, France
Recent Results Cancer Res; 80:128-133 1982

The results at 5 yr of an adjuvant chemotherapy trial in primary Ewing's sarcoma, started in 1973, are presented. Twenty-three eligible patients were treated with radiotherapy (60 Gy) to the tumor site and given polychemotherapy either using the E3 protocol (12 patients) or the E76 protocol (11 patients). Overall survival at 5 yr was 37%, with 34% disease-free survival. There was no significant difference between the two chemotherapy groups. Only three local relapses and one major orthopedic failure were reported. Among the distal relapses, no metastases to the brain have been observed. These results are encouraging and show a clear improvement over the classical survival rate. However, further improvement is necessary and may be obtained by using new active drugs, as well as earlier and probably more aggressive cyclic chemotherapy. But primary surgical amputation and prophylactic CNS irradiation are not indicated for treatment of primary Ewing's sarcoma. (Author abstract) (12 Refs)

25. EARLY RESULTS OF COMBINED MODALITY THERAPY OF PATIENTS WITH EWING'S SARCOMA.

Hossfeld DK, Seeber S, Siemers E, Schmidt CG, Scherer E
Abteilung fur Onkologie und Hamatologie, Medizinische Universitatsklinik, Martinistrasse 52, D-2000 Hamburg 20, W. Germany
Recent Results Cancer Res; 80:124-127 1982

Fourteen patients with localized Ewing's sarcoma were treated with radiation therapy to the involved bone and systemic chemotherapy. Nine patients remained free of disease for a median follow-up period of 3 yr. The actuarial 5-yr disease-free survival rate is 60%. (Author abstract) (5 Refs)

26. ADJUVANT CHEMOTHERAPY IN EWING'S SARCOMA PATIENTS.

Gasparini M, Lombardi F
Div. Clinical Oncology F, Istituto Nazionale Tumori, Via Venezian 1, Milano, Italy
Recent Results Cancer Res; 80:120-123 1982

At the Istituto Nazionale Tumori of Milan 60 patients with clinically localized Ewing's sarcoma were treated during 1965-1978 according to three different protocols. From 1965-1971, 18 patients received almost exclusively local therapy and 17 of 18 (94%) relapsed in a median time of 6 mo. From 1971-1978 adjuvant chemotherapy according to two different drug schedules was employed after radiotherapy. Twenty-five of 42 (59%) are surviving and relapse-free at this time (follow-up 20-101 mo). (Author abstract) (5 Refs)

27. RESULTS OBTAINED IN TREATMENT OF EWING'S SARCOMA.

Garcia Garcia A, Estupina Albacar S, Sanchez Santos ME, Petrement Aldairurriaga C
Departamiento de Radiologia y Medicina Nuclear, Ciudad Sanitaria La Paz, Madrid, Spain
Oncologia; 6(5):23-26 1981

Of 34 patients (8 mo to 28 yr old; 24 male, 10 female) with Ewing's sarcoma (ES), 17 had localized, and 17 advanced disease with metastases (Me). Nine patients had ES in the large, and 8 in the short bones. All patients received Co-60 radiotherapy (RT) for a total of 6,000 rads in 6 wk; lung Me received 2,500 rads and bone Me 3,000 to 3,500 rads. Of the patients with advanced ES, 98% died and only one patient lived more than 2 yr; av survival was 12 mo. Of the patients with localized ES, 47% died, and 47% were alive; a 5 yr survival was achieved by 35% of the total. In one case (7-yr-old boy), 19 mo after diagnosis of ES in the right tibia, multiple lung Me appeared and were treated with RT; 10 mo later he had a local lung relapse that was resected. He was well 28 mo after diagnosis. Of the localized ES patients, 41% had Me (mostly lung) on the av 13 mo after terminating the RT. Prognosis for patients with ES is better, if the primary site is located in distal, rather than proximal, bones. (9 Refs) (In SPA)

28. ROLE OF LUNG IRRADIATION IN THE ADJUVANT TREATMENT OF OSTEOSARCOMA.

van der Schueren E, Breur K
Div. Oncology, Dept. Radiotherapy, Academisch Ziekenhuis St. Rafael, Capucienenvoer 35, B-3000 Leuven, Belgium
Recent Results Cancer Res; 80:98-102 1982

Adjuvant lung irradiation (ALI) was tested in patients with osteosarcoma. All patients received treatment for the primary tumor which consisted of surgery, radiotherapy (RT), or RT with delayed surgery. Of a total of 86 patients, 44 controls received no further treatment; 42 patients received ALI (20 Gray, delivered in 10 sessions over 2 wk). The 5-yr survival rates (5SR) were 43% for patients treated with ALI and 28% for controls, with a significance at the 6% level. Among patients less than 17 yr old, 5SR were 48% after ALI and 28% for controls. In one treatment center the 5SR for ALI and control groups were 33% and 27%, respectively; among other centers the rates were 50% and 30%, respectively. Pediatric 5SR were as high as 61% after ALI. Survival of patients not receiving ALI was higher than for similarly treated patients in other recent studies. Variations in results among treatment centers, as well as the small number of patients studied, underscore the importance of multicenter studies of large patient populations for confirmation of results. Confirmation of the reported results would mean ALI must be combined with other agents, since the radiation dose cannot be increased. (15 Refs)

29. 18. A STRATEGIC ADJUVANT THERAPY OF OSTEOSARCOMA.

Jasmin C, Cappelaere P, Fumoleau P, Le Mevel B, Guerin D, Hansen R, Liegey-Bagar ry D, Meyer X, Mathe G, Mazabraud A, Metz R, Stines J, Meynard G, Serrou B, Trigaud A, Verhaighe M, Wallaert R
Dept. Virology, Hopital Paul Brousse, Inst. Cancerology and Immunogenetics, 14-16 Avenue Paul Vaillant Couturier, F-94800 Villejuif, France
Recent Results Cancer Res; 80:108-114 1982

Twenty-one patients with osteogenic sarcoma of the limbs were treated with an early combination of 1,750 rad whole lung irradiation, alternate cyclic chemotherapy with high-dose methotrexate, vincristine, mitomycin C, adriamycin, imidazole carboxamide (DTIC), cyclophosphamide, and intercalated immuno-BCG. The primary lesion was treated either by amputation or an 8,000 rad irradiation. Patients have been followed up for 6-29 mo. Three patients relapsed, respectively, after 8, 11, and 22 mo. All three patients had a long delay in completing the first part of treatment (first cycles A and B and lung irradiation). The 18 other patients are disease-free. Local relapses have not been observed. The toxicity of this protocol appears to be acceptable, but a longer follow-up is necessary to more precisely discern the efficacy and tolerance of the lung to this combined treatment. (Author abstract) (6 Refs)

CASE REPORTS

30. SYNOVIAL SARCOMA OF THE ABDOMINAL WALL: A CASE REPORT AND STUDY OF ITS FINE STRUCTURE.

Al-Dewachi HS, Sangal BC, Zakaria MA

Dept. Pathology, Coll. Medicine, Mosul, Iraq

J Surg Oncol; 18(4):335-344 1981

A case of synovial sarcoma in the abdominal wall of a 50-year-old Iraqi female is reported. The ultrastructure of the tumor has been studied. Eight other cases of synovial sarcoma in the abdominal wall which were reported in the English literature up to 1978 have been reviewed. Synovial sarcomas in the abdominal wall tend to occur with a much greater frequency in females in contrast to such tumors in the extremities or the neck which tend to occur with a much greater frequency in males. No ultrastructure studies of abdominal wall synovial sarcomas could be found in the English literature. Ultrastructure characteristics of this tumor were similar to those arising in the usual sites and in the neck. However, the present study has indicated that the light and dark cells reported by earlier workers are not solely limited to the epithelioid areas but are also present in the spindle cell zones. (Author abstract) (19 Refs)

31. LEIOMYOSARCOMA OF THE GLANS PENIS. RE ORT [illegible] NEW CASE AND REVIEW OF THE LITERATURE.

Rousselot F, Laroze M, Paoletti G, Etievent JP, Toulouse J, Billerey C, Bittard M

Service d'Urologie, Centre Hospitalier Universitaire, 2, place Saint-Jacques, 25030 Besancon, France

Ann Urol (Paris); 15(6):394-396 1981

A rare case of leiomyosarcoma of the glans penis in a 63-yr-old man is reported. The penis was amputated because of the local extent of the lesion. There was no evidence of metastases. At 14 mo follow-up, the patient was free of recurrence. The diagnosis, treatment, and course of 24 other reported cases are discussed. (9 Refs) (In FRE)

32. MALIGNANT MESOTHELIOMA OF THE TUNICA VAGINALIS TESTIS: REPORT OF FIRST CASE WITH PREOPERATIVE DIAGNOSIS.

Japko L, Horta AA, Schreiber K, Mitsudo S, Karwa GL, Singh G, Koss LG

(c/o Koss) Dept. Pathology, Montefiore Hosp. Medical Center, 111 East 210th Street, Bronx, NY, 10467

Cancer; 49(1):119-127 1982

The cytologic, histologic and ultrastructural features of a malignant carcinomatous mesothelioma of the tunica vaginalis testis in a 30-yr old patient are described. This is the first such case with preoperative diagnosis by cytologic examination of hydrocele fluid and the second with documented history of exposure to asbestos. The identity of the tumor was confirmed by a positive immunoperoxidase reaction directed against mesothelial cells. A review of the previously described 10 cases is presented. (Author abstract) (43 Refs)

33. MALIGNANT TRANSFORMATION OF FIBROUS DYSPLASIA. A DISCUSSION OF ONE CASE WITH A REVIEW OF HE LITERATURE.

Bejui-Thivolet F, Patricot LM, Vauzelle JL

Laboratoire d'Anatomie Pathologique, UER Lyon Nord, Hopital de la Croix-Rousse, 93, boulevard de la Croix-Rousse, 69317 Lyon, France

Arch Anat Cytol Pathol; 29(5):261-267 1981

A case of chondrosarcoma arising from a polyostotic form of fibrous dysplasia (FD) is reported. The patient, a 54-yr-old man, presented with a pathological fracture of the left femur. The patient had a history of five recurring fractures of the left femur. Previous osteotomies with biopsies had revealed FD of the femur. Radiographs showed a large polycyclic and osteolytic lesion which destroyed the femoral diaphysis and was invading the soft tissue. A diagnosis of sarcomatous transformation of FD was established. Subsequent biopsy at surgical resection confirmed the diagnosis. Malignant transformation of FD varies from 0.4-10% according to published reports. patient age is extremely variable, but women are slightly more susceptible than men. Polyostotic forms undergo malignant transformation more often than monostatic forms, and transformation occurs most frequently in those bones such as the maxilla and mandible which are most often affected by FD. The most common forms of malignant transformation are osteogenic sarcoma, fibrosarcoma, and chondrosarcoma. Radiotherapy for FD is suspected as a cause of malignant transformation. (49 Refs) (In FRE)

34. A CASE OF INTRACRANIAL FIBROUS XANTHOMA.

Abiko S, Orita T

Dept. Neurosurgery, Natl. Shimonoseki Hosp.,, Ube 755, Japan

Neurol Med Chir (Tokyo); 21(9):979-984 1981

A 6-yr-old boy was admitted to National Shimonoseki Hospital with headache, vomiting and consciousness disturbance. Skull plain film showed thinning and outer bulging of the left temp oral bone. Markedly enhanced large masses were found in bilateral temporal bases by CT scan. A V-P shunt was performed on the next day for alleviation of increased intracranial pressure. Cerebral angiography disclosed bilateral temporal tumors which were nourished by the external carotid arteries. Two mo later removal of the infected shunt system and partial resection of the left-sided tumor arising from temporal base were performed. A large tumor, 8 cm in greatest diameter was found in the middle fossa. Resected tumor weighed 110 g. It was thought that this tumor was derived from the dura of the base of the middle fossa. Microscopically the tumor was composed of spindle-shaped fibroblasts, foam cells and giant cells. It was diagnosed histologically as fibrous xanthoma. After surgery the patient had temporary respiratory failure. Differentiation between this tumor and meningioma was discussed. (Author abstract) (10 Refs) (In JPN)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

35. MESOTHELIOMA IN A FACTORY USING AMOSITE AND CHRYSOTILE ASBESTOS.

Acheson ED, Gardner MJ, Bennett C, Winter PD
Environmental Epidemiology Unit, Level F, South Lab/Path Block, Southampton General Hosp., Southampton, England

Lancet; 2(8260):1403-1406 1981

Five deaths have been certified as due to mesothelioma (4 pleural and 1 peritoneal) in men who worked at a London factory where insulation board has been manufactured since 1946 from a mixture of amosite asbestos and chrysotile asbestos. It seems reasonable to relate four of these cases to work at the factory. Amosite has been the fiber predominantly in use and seems likely to be the cause of the tumors. (Author abstract) (19 Refs)

36. ENVIRONMENTAL FACTORS IN THE ETIOLOGY OF RHABDOMYOSARCOMA IN CHILDHOOD.

Grufferman S, Wang HH, DeLong ER, Kimm SY, Delzell ES, Falletta JM
Duke Univ. Medical Center, P.O. Box 2953, Durham, NC, 27710

JNCI; 68(1):107-113 1982

In a case-control study of childhood rhabdomyosarcoma (RMS), families of 33 cases and 99 controls were interviewed. A relative risk (RR) of 3.9 was found associated with fathers' (but not mothers') cigarette smoking (P = 0.003). Cases had had fewer immunizations than controls, particularly smallpox vaccination (RR = 0.2; P = 0.001), and conversely had more preventable infections. An RR of 3.2 (P = 0.03) was found associated with exposure to chemicals and an RR of 3.7 (P = 0.004) was found associated with diets that included organ meats. Mothers of cases were more likely to be over age 30 yr at subject's birth, to have used antibiotics preceding or during pregnancy, and to have had an overdue and/or assisted delivery. Other findings suggest that low socioeconomic status is associated with an increased risk of RMS. These aggregate findings imply that environmental factors may play an important role in the etiology of childhood RMS. (Author abstract) (21 Refs)

37. RADIATION-INDUCED SARCOMA FOLLOWING RADIOTHERAPY FOR TESTICULAR TUMOR.

Lynch DF, Herr HW
Urology Service, Naval Regional Medical Center, Portsmouth, VA, 23708

J Urol; 126(6):845-846 1981

We reported four cases of soft tissue sarcoma following radiation therapy for testicular tumor. The tumors included leiomyosarcoma, fibroxanthosarcoma, reticulum cell sarcoma and spindle cell sarcoma. Each malignancy arose within the irradiated area after a long latent period (mean 12 yr) and each was histologically proved. Total radiation doses ranged from 3,500 to 9,000 rad. Three patients died as a result of the second neoplasm. Radiation-induced sarcomas are rare but must be considered in the differential diagnosis of new tumor growth in patients treated previously with radiotherapy. Full evaluation of such new tumor growth, including tissue diagnosis, is necessary before additional therapy is prescribed. (Author abstract) (7 Refs)

SELECTED PRE-CLINICAL STUDIES

38. CHEMOTHERAPY OF CHILDHOOD RHABDOMYOSARCOMAS GROWING AS XENOGRAFTS IN IMMUNE-DEPRIVED MICE.

Houghton JA, Houghton PJ, Green AA
(c/o P. Houghton) Div. Biochemical and Clinical Pharmacology, St. Jude Children's Res. Hosp., Memphis, TN, 38101

Cancer Res; 42(2):535-539 1982

Xenografts derived from the neoplastic tissues of children with rhabdomyosarcoma have been used in immune-deprived mice to examine the efficacy of agents known to be active against this disease, and in others that received either limited or no clinical evaluation. Two models were derived; xenografts were established from tumors obtained from either (a) untreated patients or (b) from patients who had become refractory to conventional therapy. Model (a) identified as being effective each of these clinically used agents: vincristine, dactinomycin, cyclophosphamide, and doxorubicin; mitomycin C and 5-(3,3-dimethyl-1-triazeno)-2-methylimidazole-4 carboxamide also showed activity, as did busulfan in one tumor line. Tumors derived from refractory patients were significantly less responsive to all agents examined. (Author abstract) (40 Refs)

39. ALKALINE PHOSPHATASE INHIBITION BY PARATHYROID HORMONE AND ISOPROTERENOL IN A CLONAL RAT OSTEOSARCOMA CELL LINE. POSSIBLE MEDIATION BY CYCLIC AMP.

Majeska RJ, Rodan GA
Dept. Oral Biology, Univ. Connecticut, Sch. Dental Medicine, Farmington, CT, 06032

Calcif Tissue Int; 34(1):59-66 1982

The effect of parathyroid hormone (PTH 1-34 bovine) on alkaline phosphatase activity was investigated in an osteoblast-like clonal cell line derived from rat osteosarcoma (ROS 17/2). The properties of ROS 17/2 alkaline phosphatase resembled those of alkaline phosphatase from bone and from both human and mouse osteosarcoma cells. Levamisole inhibition and electrophoretic mobility resembled the rat bone enzyme activities. Incubation for 15 min at 56 C destroyed 98% of the alkaline phosphatase activity in butanol-extracted rat bone homogenate, and 85% of that in a similarly treated ROS 17/2 particulate fraction. The specific activity of ROS 17/2 alkaline phosphatase increased with time in culture. The increase was inhibited by PTH 1-34 and (-)-isoproterenol in a dose-dependent manner, starting at near-physiological hormone concentration (measured 48 hr after hormone addition). The ID50 values were 0.02 nano (n)M for PTH 1-34 and 1.7 nM for isoproterenol. The two hormones stimulated ROS 17/2 adenylate cyclase at higher concentrations: 13 nM for PTH 1-34 and 16 nM for isoproterenol. The rise in alkaline phosphatase was also inhibited by dibutyryl cyclic AMP and 8-bromo-cyclic AMP (0.1 milliM). Results suggest that PTH inhibition of alkaline phosphatase represents a physiological response to the hormone in the ROS 17/2 cell line; the findings implicate cyclic AMP as a mediator of the PTH effect. (43 Refs)

40. THE THERAPEUTIC EFFECT OF VARIOUS ANTICANCER AGENTS ON RHABDOMYOSARCOMA SERIALLY TRANSPLANTED INTO NUDE MICE (MEETING ABSTRACT).

Toyosaka A, Okamoto E, Kuwata K, Ueki S, Nishiura N
First Dept. Surgery, Hyogo Coll. Medicine, Nishinomiya-shi, Hyogo Pref. 663, Japan
Shoni Gan; (16):64-69 1981

A giant botryoid type rhabdomyosarcoma of uterine origin that developed in a 2-yr-old girl was transplanted into male BALB/C nu/nu mice sc. After 5-7 generations of serial transplantation, the effect of actinomycin D (ACD), vincristine (VCR), FT-207, mitomycin C (MMC), adriamycin (ADM) and cyclophosphamide (CPA) given for 5 consecutive days ip was determined. For tumors with a maximum diameter of 10-15 mm (Group S), 50% and 85% of the tumor was reduced by giving 0.06 mg of ACD and 0.3 mg of VCR per kg, respectively, and the tumor disappeared completely in response to 0.1 mg of ACD or 0.45 mg of VCR per kg. In the group with tumors having a diameter exceeding 20 mm (Group L) only 50% and 70% of the tumor regressed at a maximum dose of 0.1 mg of ACD and 0.45 mg of VCR per kg, respectively. FT-207 did not inhibit the tumor growth of rhabdomyosarcoma and MMC and ADM were inhibitory, but had no regressive effect. Complete tumor regression resulted from large-dose administration of CPA. After the simultaneous administration of 0.03 mg of ACD and 0.15 mg of VCR per kg or by the alternate application of these drugs in the morning and evening, the Group S tumors disappeared completely. The Group L tumors disappeared within 2 wk when 0.03 mg of ACD and 5.0 mg of CPA per kg were given in the morning and 0.15 mg of VCR per kg in the evening. (7 Refs) (In JPN)

41. SPECIFICITY OF SYNGENEIC MONOCLONAL ANTIBODIES AGAINST CELL SURFACE ANTIGENS ON CHEMICALLY INDUCED MOUSE FIBROSARCOMAS.

Klein PA
Tumor Biology Unit, Dept. Pathology, Coll. Medicine, Univ. Florida, Gainesville, FL, 32610
Transplant Proc; 13(4):1762-1764 1981

Development and characterization of 16 monoclonal antibodies (McAb) against tumor-specific transplantation antigens (TSTA) are reported. McAb were developed by immunizing C57BL/6 and BALB/c mice with their own syngeneic, chemically induced fibrosarcomas bearing unique TSTA; the formation of hybridomas followed. Radioimmunoassays were carried out with a large panel of normal cells, tumor cells, and ecotropic and xenotropic murine leukemia viruses (MuLV). Competitive binding assays used tumor cells and MuLV against well-characterized anti-MuLV gp70 and p15(E) McAb. No highly restrictive tumor specificity was found for any of 16 McAb tested. All McAb showed either MuLV-dependent or MuLV-independent cross-reactivity with several mouse tumor strains. Results obtained with five McAb are tabulated. Reactions to anti-MuLV indicated that M3, PC11, and CS-1 tumor strains express gp70 and p15(E) antigens of ecotropic and/or xenotropic viruses on the cell surface. McAB L1 and 4B1 were specific for tumors bearing MuLV antigens. The 4B1 McAb was specific for a molecule similar or identical to the gp70a epitope of ecotropic MuLV. Three McAb showed tumor reactions independent of MuLV antigens. Failure to produce a tumor-specific McAb may be due to differences in T and B cell function or to sampling luck. (9 Refs)

REVIEWS

42. SURGICAL ADJUVANT THERAPY FOR SOFT TISSUE SARCOMAS.

Townsend CM
Dept. Surgery, Univ. Texas Medical Branch, Galveston, TX, 77550
Surg Clin North Am; 61(6):1405-1413 1981

It is now apparent that combination chemotherapy is effective for the treatment of patients with metastatic sarcoma, and encouraging results have been reported for surgical adjuvant treatment of patients with high-grade soft tissue sarcomas. The development of an accurate histopathologic staging system so that high-risk patients can be identified now allows us to study the effect of systemic adjuvant therapy. Many questions remain unanswered. First and foremost is to determine the drug and combinations of drugs that are most effective in the treatment of adults with soft tissue sarcomas. Most of the reported series are small and this is due to the rarity of these lesions. In addition, since there are few patients, the majority of studies have compared treatment results with historical controls rather than conducting prospective, randomized trials. Other questions to be answered include, what is the role of preoperative treatment with regional or systemic chemotherapy; what are the effects of radiation therapy; and what is the appropriate timing and dose of radiation therapy and is preoperative or postoperative administration more effective? Finally, the question of the extent of surgical operation that is required to achieve max function and minimal rates of local recurrence remains to be answered. Despite the difficulty involved in accumulating large numbers of patients, it is imperative that randomized prospective trials be carried out comparing patients with similar stage sarcomas treated with adjuvant chemotherapy to patients who have received no adjuvant chemotherapy. This will probably require multi-institutional cooperative studies in which surgical operations are clearly defined, histopathologic staging is performed, and treatment protocols are strictly followed in order that the groups of patients will be comparable. The basic premise of systemically active, surgical adjuvant therapy is that patients with high-grade soft tissue sarcomas are at increased risk for development of systemic disease. The anatomic location of the tumor dictates in some instances the surgical procedures that must be used to achieve acceptable rates of local control. It is encouraging to see the results of limb salvage operations combined with systemic therapy for patients who are at high risk for development of recurrent disease and who in the past might have been subjected to radical amputations without any improvement in overall survival. Further studies are obviously required, but the road is now well lighted and questions to be answered are clearly delineated by the important studies that have been reviewed here. (36 Refs)

43. ADJUVANT TREATMENT OF OSTEOSARCOMA.

Eilber FR
UCLA Sch. Medicine, 10833 Leconte Ave., Ninth Floor, Factor Building, Los Angeles, CA, 90024
Surg Clin North Am; 61(6):1371-1378 1981

At the present time, there is no question that the overall survival rate of patients with osteosarcoma has been markedly improved. The frequent use of whole lung tomography and CAT scanning has permitted the more accurate clinical staging of patients and selection of patients who have distant macrometastatic disease. More aggressive surgical resection of metastatic disease has rendered approx 35% of these patients long-term survivors and has contributed to the overall improved survival rate of patients. It is clear from all of the previous studies that adjuvant immunotherapy does not appear to play a major role in the treatment of patients with osteosarcoma at the present time. The use of adjuvant chemotherapy, either as a single agent or in combination with other agents, appears to have a definite influence on the disease-free rate as well as on the overall survival rate of patients. The exact percentage of benefit is not clear. It is apparent that the only way that the definitive role of adjuvant chemotherapy can be assessed in patients with osteosarcoma is by randomized prospective trials with similar staging criteria in order to determine the exact benefit of the adjuvant chemotherapy. Although there are several different adjuvant chemotherapy regimens currently in use in the United States, as mentioned in Table 1, no direct comparison between these regimens has been made, with the exception of the study by Cancer and Leukemia Group B of adriamycin vs adriamycin and high-dose methotrexate. A logical sequence of investigation would compare a particular adjuvant therapy with the best reported adjuvant therapy, namely, the multidrug combination of Rosen. If a randomized prospective study could show that this regimen is superior to surgery alone, this adjuvant would become the standard treatment. With approx 300 to 500 new cases of osteosarcoma in the United States per yr, it is clear that interinstitutional cooperation will be absolutely necessary for such studies in order to acquire sufficient patients within a relatively short time to meet patient accrual requirements to determine if there is, in fact, a 20% difference between these two groups. It is hoped that this interinstitutional cooperation will be forthcoming and these direct comparisons can be made. (Author abstract) (48 Refs)

☆ U. S. GOVERNMENT PRINTING OFFICE : 1982—361-847/118

AUTHOR INDEX WITH CITATION NUMBERS

Abe T 6
Abiko S 34
Acheson ED 35
Al-Dewachi HS 30
Ambrus JL 14
Barkley HT 16
Bejui-Thivolet 33
Bennett C 35
Biller HF 9
Billerey C 31
Bittard M 31
Blinov VM 8
Blitzer A 9
Bramwell V 15
Breur K 28
Cappelaere P 29
Cetas TC 20
Connor WG 20
Crist WM 1
Davy M 15
DeLong ER 36
Delzell ES 36
Didolkar MS 14
Donaldson M 1
Eilber FR 43
Estupina A' aca 27
Etievent JP 31
Falletta JM 36
Farr GH 4
Fossati-Bellani 23
Fudenberg HH 11
Fukuta I 6
Fumoleau P 29
Garcia Garcia A 27
Gardner MJ 35
Gasparini M 23
Gasparini M 26
Gehan EA 1
Gerner EW 20
Gianni C 23
Glatstein E 21
Gnagy MJ 11
Golbey RB 13
Green AA 38
Grufferman S 36
Guerin D 29
Hajdu SI 13
Hajdu SI 4
Hammond D 1
Hansen R 29
Hartman GV 22
Harwood AR 17
Haworth JM 7
Hays DM 1
Herr HW 37
Heyn R 1
Higashi S 12
Higi M 18
Hiramatsu H 6
Holyoke ED 14
Horta AA 32
Hosoi S 12
Hossfeld DK 25
Hotta A 6
Houghton JA 38
Houghton PJ 38
Iyomasu Y 6
Japko L 32
Jasmin C 29
Karakousis CP 14
Karwa GL 32
Kimm SY 36
Klein PA 41
Knahr K 19
Koss LG 32
Kotz R 19
Kristen H 19
Kuwata K 40
Lack EE 3
Laroze M 31
Lawrence W 1
Lawson W 9
Le Mevel B 29
Le Mevel BP 24
Lesser M 13
Liegey-Bagarry 29
Lindberg R 1
Lindberg RD 16
Lindsay PC 5
Lombardi F 23
Lombardi F 26
Lynch DF 37
Magill GB 13
Majeska RJ 39
Manning MR 20
Mansfield CM 22
Mathe G 29
Maurer HM 1
Mazabraud A 29
Metz R 29
Meyer X 29
Meynard G 29
Mikawa H 12
Miller RC 20
Mitsudo S 32
Morales PH 16
Mouridsen HT 15
Mulder JH 15
Murase M 6
NakamuraT 12
Nakashima N 6
Newton W 1
Nishiura N 40
Okamoto E 40
Oleson JR 20
Ordonez N 5
Orita T 34
Paoletti G 31
Papachristou DN 4
Park WM 7
Patricot LM 33
Pavlovskaia AI 8
Perez-Atayde AR 3
Petrement Aldai 27
Pinedo HM 15
Raaf JH 5
Ragab AH 1
Raney RB 1
Reddy EK 22
Rodan GA 39
Rosenberg SA 21
Rousselot F 31
Roylance J 7
Ruymann T 1
Salzer M 19
Sanchez Santos 27
Sangal BC 30
Santoro A 15
Scherer E 18
Scherer E 25
Schmidt CG 25
Schmitt G 18
Schreiber K 32
Schuster SR 3
Scbek BA 10
Seeber S 18
Seeber S 25
Serrou B 29
Shamberger RC 21
Sherins RJ 21
Shimizu T 6
Shimomiya K 12
Shiu MH 13
Shiu MH 4
Shmookler BM 2
Siemers E 25
Singh G 32
Solov'ev IuN 8
Som ML 9
Somers R 15
Sordillo PP 13
Soule EH 1
Stines J 29
Sutow WW 1
Takeuchi E 6
Tanaka M 6
Tefft M 1
Toulouse J 31
Townsend CM 42
Toyama S 12
Toyosaka A 40
Trigaud A 29
Tsang KY 11
Ueki S 40
Van Oosterom AT 15
Van der Schuere 28
Vauzelle JL 33
Verhaighe M 29
Wallaert R 29
Wang HH 36
Watt I 7
Winter PD 35
Yamamuro T 12
Zak FG 9
Zakaria MA 30
Ziegler JL 21

VIDEOTAPES

ON CURRENT TOPICS IN CANCER RESEARCH

A pilot project of the International Cancer Research Data Bank (ICRDB) Program of the National Cancer Institute

Three series are available . . .

THE RELATION OF CARCINOGEN ACTION ON DNA TO CELL TRANSFORMATION

PETER MAGEE Fels Research Institute	*Keynote Address*	#VK01 28 min.
JAMES K. SELKIRK Oak Ridge National Laboratories	*Metabolic Activation and Macromolecular Binding of Chemical Carcinogens*	#VK02 51 min.
PHILIP C. HANAWALT Stanford University	*Cellular Responses to Damaged DNA*	#VK03 54 min.
CHARLES HEIDELBERGER University of Southern California	*Mutagenesis and Oncogenic Transformation of Mouse Embryo Cells*	#VK04 54 min.
FRED RAPP Milton S. Hershey Medical Center	*The Interaction of Herpesviruses and Host Cells Leading to Latency or Transformation*	#VK05 52 min.
	Panel Discussion	#VK06 31 min.

MECHANISMS OF METASTASIS

ISAIAH FIDLER Frederick Cancer Research Center	*The Heterogeneous Nature of Cancer Metastasis and Implications for Therapy*	#VB01 47 min.
GEORGE POSTE Smith, Kline and French Laboratories	*Phenotypic Analysis of Metastatic Cell Populations*	#VB02 42 min.
LANCE LIOTTA National Cancer Institute	*Tumor Cell Invasion of Basement Membranes and Extracellular Matrices*	#VB03 33 min.
EVERETT SUGARBAKER Miami Cancer Institute	*Some Clinical Characteristics of Metastasis in Man*	#VB04 41 min.

AUTOMATED CYTOLOGY

Part One: Principles and Techniques	#VB05 56 min.
Part Two: Biological Applications	#VB06 52 min.

VIDEOTAPES ON CURRENT TOPICS IN CANCER RESEARCH are in the 3/4'' U-matic format and can be played on video equipment which accepts the NTSC standard (the standard for videotapes produced in the U.S.).

The videotapes are available on a loan basis. If you would like to schedule viewing for your group, or for more information, please write to:

Cancer Information Dissemination and Analysis Center (CIDAC)
Franklin Research Center
20th and Benjamin Franklin Parkway
Philadelphia, PA 19103

Please specify three choices for viewing dates, and the tapes desired.

CANCER
LINE

More Than Just A Fancy Name

Mention CANCERLINE to your librarian and the world's foremost collection of cancer information is at your disposal. With the help of this computerized data system, you can obtain information on the following:

Cancer Literature

The literature date base, **CANCERLIT**, allows you to survey more than 3,000 biomedical journals for information on your topic of interest. Your search will also alert you to meeting proceedings, monographs, and books published in that area. Informative abstracts averaging 200 words are provided with each citation;

Current Cancer Research

The data base **CANCERPROJ** allows you to retrieve descriptions of current work in any cancer research area. The descriptions, which state research objective, methodology, and experimental results, are supplied for projects underway in 77 countries around the world.

Cancer Therapy Protocols

The **CLINPROT** section of CANCERLINE is designed primarily for clinicians. It provides detailed summaries of currently active experimental protocols for any cancer site, agent, or type.

Ask your biomedical librarian about CANCERLINE.
CANCERLINE is sponsored by the International Cancer Research Data Bank—a program of the National Cancer Institute.

CANCERLINE

Keep Up with the Cancer Literature

Each Month You Can Receive Abstracts Covering Your Specialty Area

- This convenient service — called Auto SDI* — is as near as your nearest biomedical library. Discuss your research interests with the librarian who will design an appropriate search strategy.
- Abstracts of the latest published literature are searched automatically each month and those related to your interests are delivered to you on a regular basis.
- The abstracts you receive are selected from more than 4,000 monthly entries made into CANCERLIT — the extensive cancer literature data base of the National Cancer Institute.

Talk With Your Librarian About the Auto SDI Service TODAY.

---

*Auto SDI stands for Automatic Selective Dissemination of Information. It is a service provided to you, at minimal cost, by the International Cancer Research Data Bank (ICRDB) — a part of the National Cancer Institute.

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT 12/82/06

NCI/ICRDB/CT12 82/06

PB82-938706

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/06

JUNE, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY
JUL 7 1982
U. S. GOVT. PUBS.
DEPOSITORY 376

SPECIAL ANNOUNCEMENTS FROM THE
ICRDB PROGRAM WILL PERIODICALLY
APPEAR AS FILLER PAGES IN THE
BACK OF YOUR CANCERGRAMS.
WATCH FOR THEM!

In this issue:

- DIAGNOSIS 1-14
- CHEMOTHERAPY 15-23
- SURGERY 24-25
- MULTIMODAL THERAPY 26-31
- CASE REPORTS 32-37
- SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY 38-40
- SELECTED PRE-CLINICAL STUDIES 41-44

DIAGNOSIS

1. SYNOVIAL SARCOMA.

Wright PH, Sim FH, Soule EH, Taylor WF
Publications Section, Mayo Clinic, 200 First St. S.W., Rochester, MN, 55905
J Bone Joint Surg [Am]; 64(1):112-122 1982

One hundred and eighty-five patients, whose ages ranged from 2 to 70 yr (mean, 30 yr), have been treated at the Mayo Clinic for synovial sarcoma. Sixty-nine percent of the tumors occurred in the lower extremity; 25%, in the upper extremity; and 6%, in the trunk. Histological characteristics included a predominant bimorphic pattern in 33% of the tumors, a monomorphic pattern in 31%, and a mixed pattern in 36%. For all patients, the 5-yr survival rate was 38% and the 10-yr rate was 23%, with a median survival time of 39 mo. However, for those patients treated since 1960, the 5-yr survival rate was 55% and the 10-yr rate was 38%. Female patients had a significantly better survival time than did male patients. Younger patients had a better survival rate, and the prognosis was better for those patients whose tumors were either less than 5 cm in diameter or located in the lower extremity. Survival rates were best for those patients who had wide local excision, but this

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service • National Institutes of Health • National Cancer Institute

HE 20. 3173/2:

type of surgery was performed for the lesions that had a more favorable prognosis. A regression study indicated that the size of the tumor was the single most important prognostic variable for survival. Second in importance was the extent of disease on initial presentation, followed by the chronological time of treatment, the age of the patient, and the anatomical site of the tumor. (Author abstract) (21 Refs)

2. COMPUTED TOMOGRAPHY OF RHABDOMYOSARCOMAS OF THE SKULL BASE IN CHILDREN.

Scotti G, Harwood-Nash DC
(c/o Harwood-Nash) Dept. Radiology, Hosp. Sick Children, 555 University Ave., Toronto, Ontario M5G 1X8, Canada
J Comput Assist Tomogr; 6(1):33-39 1982

The computed tomographic (CT) findings of rhabdomyosarcomas involving the skull base in seven children are described. The tumor may arise in the nasopharynx, maxillary sinus, petrous bone, or orbit. Computed tomography clearly shows the full extent of bone destruction and replacement by soft tissue. The CT picture, however, is not specific and differential diagnosis with other aggressive lesions involving the base of the skull such as histiocytosis X, neuroblastoma, and lymphoma can be made only with a combined clinical and radiological approach. (Author abstract) (20 Refs)

3. LIPOSARCOMA IN ADULTS. PROGNOSTIC FACTORS IN A SERIES OF 84 CASES.

Le Chevalier T, Rouesse J, Contesso G, Pejovic MH, Genin J, Sarrazin D
Institut Gustave Roussy, rue Camille Desmoulins, F 94800 Villejuif, France
Nouv Presse Med; 10(44):3625-3628 1981

A retrospective study of 84 patients with liposarcoma treated at the Gustave Roussy Institute between 1956 and 1978 has elicited a number of factors which influence the prognosis, namely: (1) the site of the initial tumor: patients with liposarcoma of the head, trunk and extremities have a better survival rate than those with retroperitoneal tumors or tumors of the pelvic and pectoral girdles; (2) the histological type: differentiated forms have a brighter prognosis than undifferentiated forms; (3) the size of the tumor: tumors of less than 10 cm in diameter have a more favorable prognosis than larger tumors; and (4) the patient's age, which in fact correlates with the histological type. Local recurrences are common but do not seem to worsen the prognosis. The only curative treatment is surgery, but radiotherapy reduces the risk of local recurrences and chemotherapy may be considered in cases with poor prognosis. (Author abstrac t) (20 Refs) (In FRE)

4. INTRAOSSEOUS LIPOMAS WITH REACTIVE OSSIFICATION IN THE PROXIMAL FEMUR. REPORT OF EIGHT CASES.

Milgram JW
Dept. Orthopedic Surgery, Northwestern Univ. Medical Sch., 303 East Chicago Ave., Chicago, IL, 60611
Skeletal Radiol; 7(1):1-13 1981

Eight operated or postmortem cases with diagnostic features of intraosseous lipomas of the proximal femur are described. Characteristic dense radiopacity was present at the periphery of the lesion in most cases. Lipomas were sometimes solid, but spontaneous cystification occurred in many cases. Distinctive histologic features were vacuolated loose stellate cells in a myxomatous pattern, sheets of acellular eosinophilic tissue, spontaneous calcification, and extensive production of immature fiber or woven bone. (15 Refs)

5. KAPOSI'S SARCOMA IN YOUNG HOMOSEXUAL MEN.

Myskowski PL, Romano JF, Safai B
(c/o Safai) 425 E. 67th St., New York, NY, 10021
Cutis; 29(1):31-34 1982

The incidence, clinical features, associated conditions, pathogenesis, and prognosis of a new form of Kaposi's sarcoma (KS) are discussed. Within the last three yr 54 such cases showed differences from traditional KS including a mean age of 39 yr, all men with bisexual or homosexual preference, and geographic clustering in New York City and California. Clinical features of the new variant of KS include early presence of lymph node and/or mucous membrane involvement, pityriasis rosea-like pattern of skin lesions primarily on the head, trunk, and upper extremities, and systemic complaints. Associated conditions include pneumocystis carinii pneumonia, herpes simplex infection, toxoplasmosis, and cryptococcosis, but not secondary neoplasms. A history of prior sexually transmitted disease in new KS patients suggests a relationship to KS development. Cytomegalovirus infection was reported in 94% of cases. Immune defects are also suspected in young homosexual KS patients. The prognosis for the new form of KS is less favorable, with a 20% mortality rate at the present time. Effects of therapy are difficult to evaluate thus far. Awareness of the features of the new KS will enable practitioners to better recognize this disease. (18 Refs)

6. MALIGNANCY OF MYXOFIBROMA.

Niederdellmann H, Krekeler G
Abteilung fur Zahn-, Mund- und Kieferheilkunde III, Klinik und Poliklinik fur Zahn-, Mund- und Kieferkrankheiten, Universitat Freiburg i. Br., Hugstetter Strasse 55, D-7800 Freiburg i. Br., W. Germany
Dtsch Zahnaerztl Z; 36(11):764-766 1981

Analysis of the degree of malignancy of myxofibroma in six patients is reported. Four patients had tumors of the maxilla; two had tumors of the mandible. Biopsies were performed on all patients. The tumors of the maxilla, were diagnosed (2) as myxofibroma based on the first histological exami nation; two required repeated biopsies for diagnosis. All four maxillary tumors were removed by radical surgery. No recurrences were found at 4 yr or more follow-up. Initial diagnosis of the two mandibular tumors was uncertain, osteogenic sarcoma and epulis being considered. Both cases developed recurrent tumors after excochleation. Review of the presented cases and literature indicates that myxofibroma presents diagnostic problems typical of mesenchymal tumors. Myxofibroma is usually benign but may have latent malignant potential. Sample biopsies may provide inaccurate diagnosis because of inhomogeneity of the tumor tissue. Biopsy may indicate a degree of malignancy that is not supported by clinical evolution of the tumor. Grading of the tumor therefore requires examination of the entire tumor. Therapy of choice for myxofibroma is radical surgery. (9 Refs) (In GER)

7. THE SIGNIFICANCE OF BONE AND CARTILAGE FORMATION IN MALIGNANT FIBROUS HISTIOCYTOMA OF SOFT TISSUE.

Bhagavan BS, Dorfman HD
Dept. Pathology, Sinai Hosp. Baltimore, Baltimore, MD, 21215

Cancer; 49(3):480-488 1982

Malignant fibrous histiocytoma of soft tissue (MFH), a mesenchymal tumor of varied morphologic patterns and cell types, sometimes contains bone and cartilage. Such bony and cartilaginous elements in a pleomorphic MFH may pose a difficult diagnostic challenge. An MFH with bone and cartilage can be distinguished from extraosseous osteogenic sarcoma and chondrosarcoma on the basis of qualitative and quantitative features of the osseous and chondroid elements. Five cases of soft tissue MFH containing bone and cartilage reported here showed: (1) that the bony and cartilaginous elements are mostly metaplastic and tend to be in the pseudo-capsule or fibrous septa of the tumor; and (2) that the bony elements may show a zoning pattern with peripheral maturation similar to myositis ossificans. In a single case, there was a small amount of 'tumor osteoid.' However, this was focal and lacked the diffuse and finely divided or ribbon-like pattern generally associated with osteogenic sarcoma. The probability that MFH with bone and cartilage is less aggressive than soft tissue osteogenic sarcoma or chondrosarcoma underscores the importance of accurate histologic diagnosis of these tumors. (Author abstract) (19 Refs)

8. PRIMARY MALIGNANT FIBROUS HISTIOCYTOMA OF BONE: REPORT OF SIX CASES WITH ULTRASTRUCTURAL STUDY AND ANALYSIS OF THE LITERATURE.

Ghandur-Mnaymneh L, Zych G, Mnaymneh W
Dept. Pathology, Univ. Miami/Jackson Memorial Medical Center, P.O. Box 016960, Miami, FL, 33101

Cancer; 49(4):698-707 1982

Six cases of malignant fibrous histiocytoma (MFH) primary in bone were studied clinicopathologically with ultrastructural study of three. The histologic differentiation of MFH from osteosarcoma and from fibrosarcoma is discussed. Two of the six cases had highly malignant tumors histologically designated as Grade III and IV; one died with diffuse metastatic disease 8 mo after diagnosis and the second developed pulmonary metastases within 10 mo. Review of the literature revealed that 45 of the total 119 reported cases had been followed for less than 5 yr; these cases were considered unevaluable for assessing biologic behavior. The remaining 74 cases, followed for more than 5 yr or until death, showed a 36.5% 5-yr survival rate. All but one of the cases which developed metastasis within 5 yr did so within the first 2 yr. It is therefore concluded that MFH of bone is a rapidly metastasizing tumor with a relatively low 5-yr survival rate. Paradoxically, 13 of these 74 cases (17.6%) survived between 5 and 38 yr with no evidence of disease. This is comparable to the long-term survival rate in osteosarcoma. The 5-yr survival rate is also comparable to that of fibrosarcoma of bone. (Author abstract) (33 Refs)

9. COMPARATIVE STUDY ON THE NUCLEAR DNA CONTENT OF LEIOMYOMA, LEIOMYOBLASTOMA AND LEIOMYOSARCOMA OF THE STOMACH AND SMALL INTESTINE.

Kimura O, Kaibara N, Tamura H, Nishidoi H, Okamoto T, Koga S
(c/o Kaibara) The 1st Dept. Surgery, Tottori Univ. Sch. Medicine, 36-1-Nishimachi, Yonago 683, Japan

Jpn J Surg; 11(6):428-432 1981

Nuclear DNA contents in tumor cells of leiomyoma (LM), leiomyoblastoma (LB) and leiomyosarcoma (LS) of the stomach and small intestine were determined and the DNA distribution pattern and histopathological findings were evaluated. Five LM, four LB, and two LS of the stomach, and one LS of the small intestine were obtained at the time of gastrectomy, intestinal resection and biopsy. Nuclear DNA content was determined by staining the sections according to the Feulgen method. Three of five gastric LM had developed in the gastric corpus and two were located in the cardia. No ulcer formation of LM, except in one case, was noted. LB were located in the corpus and cardia. Ulcer formation was noted in two patients. LS were the largest in size, and ulcer formations were apparent in all patients. The mean DNA content for LM was 2.2-2.7 CC (CC= range distribution), 3.0-3.1 CC for LB, and 4.6-5.8 CC for LS. Peak DNA values were in the diploid area in LM and LB. Missing of peak value in LS indicated aneuploidy. A significant difference in nuclear DNA content exists among the tumors, and percentage of nuclei with DNA content 3 or 4x over the basic CC represent good indices for distinguishing between benign and malignant conditions. In differentiated types of LS is sometimes difficult to make histopathological distinction between LM and LB. Diagnosis of LS may be more accurate when more than 80% of the nuclei have DNA content values greater than 3x of basic nuclear content and when more than 50% exhibit values greater than 4x of basic content. (8 Refs)

10. THREE CASES OF MALIGNANT SCHWANNOMA OF THE STOMACH-LIGHT AND ELECTRON MICROSCOPIC OBSERVATIONS (MEETING ABSTRACT).

Fujiwara M, Tsuchiya S, Nakagawa H, Takubo K, Takizawa T, Aoki N, Miyamoto H, Takahama M
Department of Pathology, Saitama Cancer Center, Saitama, Japan

Proceedings of the Japanese Cancer Association, 40th Annual Meeting, October 1981, Sapporo, Japan. The Association 415 pp., 1981.

Well known are the difficulties in accurate diagnosis for schwannoma of the stomach. The vast majority of all reported schwannomas of the intestinal tracts are in fact smooth muscle tumors. The error is due to the fact that there is a great tendency for the gastrointestinal leiomyomas to palisade their nuclei. Three cases of submucosal tumor of the stomach, occurring in a 63 yr old female, a 74 yr old female and a 72 yr old male were studied with light and electron microscope. Histological examination revealed mesenchymal tumors composed of spindle-shaped cells arranged in fascicles with nuclear palisading. The ultrastructual features were summarized as follows: (1) interdigitating cytoplasmic processes; (2) well-developed external lamina; (3) presence of desmosome-like structure. The characteristic patter of schwannoma of the stomach was detected by electron microscopic studies, which played an important role in differential diagnosis from smooth muscle tumor. (no Refs)

11. HUMAN MALIGNANT DIFFUSE MESOTHELIOMA: SUBMICROSCOPIC STUDY ON THE EPITHELIAL COMPONENT.

Osculati F, Parravicini C, Cinti S, Mosca L
Istituto di Morfologia Umana Normale, Universita di Ancona, Via Grotte di Posatora, 60100 Ancona, Italy
J Submicrosc Cytol; 14(1):203-213 1982

A submicroscopic analysis of eight cases of malignant diffuse mesothelioma was performed. Unlike normal and hyperplastic mesothelium, well differentiated neoplastic cells were found to have a prominent RER and a conspicuous Golgi system. By using a postfixation in osmium ferrocyanide, an amorphous substance was observed in the extracellular space. These features may be related to the ability of malignant diffuse mesothelioma to produce large amounts of hyaluronic acid. The significance of groups of membrane bound dense bodies found in seven of eight cases examined is also discussed. (Author abstract) (24 Refs)

12. HEMANGIOENDOTHELIOMA (ANGIOSARCOMA) OF BONE: A DISTINCT PATHOLOGIC ENTITY WITH AN UNPREDICTABLE COURSE?

Volpe R, Mazabraud A
(c/o Mazabraud) Dept. Pathology, Fondation Curie, 26 rue d'Ulm, 75231 Paris Cedex 05, France
Cancer; 49(4):727-736 1982

Eighteen cases of hemangioendothelioma (angiosarcoma) of the bone were found in a review of the files of the Department of Pathology of the Institut Curie. The ages of the patients, 11 males and 7 females, ranged from 12-69 yr (median 32 yr). Pain was the usual symptom (11/16). Fifty percent (9/18) of the tumors occurred in the long tubular bones. Radiographic findings showed osteolytic, often multifocal, lesions without evidence of reactive bone formation. Grossly, the tumor masses were always found to be confined to the cavity of the bone. In all cases microscopic findings fulfilled the diagnostic criteria proposed by Stout. Solid and cellular small structures closely resembling embryonal vessels were observed in several instances, and were also helpful in identifying the endothelial vascular nature of the tumors. The histologic grade was difficult to determine in the majority of cases because there were several areas with different grades of differentiation. Of 15 patients with follow-up data, 7 were alive and well with no evidence of disease 2-14 yr after diagnosis (median 9 yr). Another patient was alive with metastatic disease after 5 yr. The survival of the 7 patients who died ranged from 7-53 mo (median 21 mo). This study confirms that hemangioendothelioma of the bone is a distinct pathologic entity. In contrast, it appears very difficult to determine the common clinical behavior of these tumors because they can show an extremely variable malignant potential. (Author abstract) (22 Refs)

13. SONOGRAPHIC FINDINGS IN FOUR CASES OF HEMANGIOPERICYTOMA: CORRELATION WITH COMPUTED TOMOGRAPHIC, ANGIOGRAPHIC, AND PATHOLOGIC FINDINGS.

Grant EG, Gronvall S, Sarosi TE, Borts FT, Holm HH, Schellinger D
Dept. Radiology, Georgetown Univ., 3800 Reservoir Road NW, Washington, DC, 20007
Radiology; 142(2):447-451 1982

Four patients with hemangiopericytoma were examined with gray-scale sonography. Three of these patients were also evaluated by computed tomography (CT). The sonographic findings included well-defined, predominately cystic masses in two patients, a mixed solid and cystic mass in one, and a solid mass with shadowing in another. One hemangiopericytoma changed in sonographic appearance from cystic to solid following radiation. CT identified well-circumscribed masses in all three cases, but added little beyond what was seen on plain radiographs. Sonography may define the limits of a hemangiopericytoma, give information about the internal structure, and offer a way of following response to therapy. However, the sonographic features are varied and the often cystic nature of these tumors may be misleading. (Author abstract) (35 Refs)

14. ALKALINE PHOSPHATASE HISTOCHEMISTRY OF SOFT TISSUE TUMORS (MEETING ABSTRACT).

Machinami R, Kikuchi F
Department of Pathology, University of Gunma, Gunma, Japan
Proceedings of the Japanese Cancer Association, 40th Annual Meeting, October 1981, Sapporo, Japan. The Association 415 pp., 1981.

Histochemical examination of alkaline phosphatase in 31 malignant and 80 benign soft tissue tumors was carried out in order to investigate the usefulness of enzyme histochemistry in differential diagnosis. Tumor cells of malignant cases of malignant fibrous histocytoma (MFH), alveolar soft part sarcoma and undifferentiated spindle cell sarcoma (USCS). The host capillaries were sometimes positive in MFH, angiosarcoma, leiomyosarcoma, rhabdomyosarcoma, fibrosarcoma, dermatofibrosarcoma protuberans and USCS. Several cases of meningioma and only one case of neurilemoma and cardiac myxoma were positive among benign tumors. Most of these findings were confirmed in the electron microscope. The results seem to suggest that alkaline phosphatase positive spindle cell sarcoma may be a tumor a hemangiopericyte and that alkaline phosphatase histochemistry is not always useful for differentiation of MFH from osteosarcoma. (no Refs)

CHEMOTHERAPY

15. THE THERAPY OF OSTEOSARCOMA BY INTRAARTERIAL CIS-PLATINUM AND LIMB PRESERVATION.

Chuang VP, Wallace S, Benjamin RS, Jaffe N, Ayala A, Murray J, Zornoza J, Patt Y, Mavligit G, Charnsangavej C, Soo CS
Dept. Diagnostic Radiology, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Cardiovasc Intervent Radiol; 4(4):229-235 1981

Intraarterial infusion of cis-diamminedichloroplatinum (CDDP) was evaluated in 14 patients (10 males, 4 females; 12-73 yr old) with osteosarcoma (11 primary, 2 recurrent, and 1 metastatic). Neoplasms were located in the innominate bone in six patients, in the femur in four, in the sacrum in two, and in the tibia and radius in one each. Pulmonary metastasis occurred in 4/14 prior to ia infusion. Arteriography was performed before each cycle of infusion. CDDP infusion (av 80-150 mg/square meter body surface area; 1 cycle/3-4 wk, 3-4 cycles total) was performed over 2-hr periods of vigorous hydration and mannitol diuresis. In 13 patients with significant bone pain prior to treatment, complete decrease in pain was observed in four, marked decrease in five, minimal decrease in two, and increasing pain in two. Tumor calcification developed in four patients. Angiographic demonstration of response was observed in nine patients. Based on clinical, radiographic, and angiographic criteria, favorable local response was obtained in

9/14. All patients experienced moderate to severe nausea and vomiting on the day of treatment, and some patients had other complications. Of the patients who had local response to treatment, eight were alive after a follow-up period of 14-21 mo; six had no evaluable disease at the time of the report. All of the nonresponders died of disease 3-14 mo after treatment. (32 Refs)

16. MORPHOLOGICAL AND FUNCTIONAL STUDIES IN HUMAN OSTEOSARCOMAS: EFFECT OF PRE-OPERATIVE CHEMOTHERAPY (MEETING ABSTRACT).

von Hochstetter A, Cserhati M, Groscurth P, Honegger HP

Department of Pathology, University of Zurich, Zurich, Switzerland

UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

In the treatment of osteosarcomas (OS), aggressive cytotoxic drugs, especially high dose methotrexate (HD-MTX), have found increasing application in the pre-operative phase. On resulting morphological alterations in OS, however, only few data are available. THus we began to apply several methods in the study of OS, surgically obtained from patients who had undergone chemotherapy. The procedures included extensive examination of OS by light and electron microscopy and transplantation into 'nude' mice of fragments taken from different areas of each tumor. Since autumn 1980, six OS (5 primary tumors, one lung metastasis) have been studied. Careful morphological examination revealed in each case large areas of necrotic tissues, as well as viable tumor cells. Accordingly, all OS transplanted in 'nude' mice, were generally found to grow in the recipients, albeit at variable rates. Morphological examination in combination with animal experiments allows valuable information to be gained from the interplay between sarcomas and various cytotoxic drugs. (no Refs)

17. IPHOSPHAMIDE IN THE TREATMENT OF REFRACTORY METASTATIC OSTEOSARCOMA (MEETING ABSTRACT).

Marti C, Kroner T, Cserhati M

Division of Oncology, Kantonsspital, CH-9007 St. Gallen, Switzerland

UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

In a prospective trial we investigated the efficiency of Iphosphamide (IF) in the treatment of osteosarcoma. So far 14 patients (pts) with advanced metastatic disease have been studied, all with measurable pulmonary deposits. Pts received IF in a dose of 1.2-2.4 g/m2 iv on days 1-5, according to the estimated bone marrow reserve. Cycles were repeated every 4 wk. Mesnum was given to all pts either iv or po in order to prevent hemorrhagic cystitis. At present 12 pts are evaluable. All but one were pretreated with 1-5 (median 2) cytotoxic agents. One of 12 pts achieved a complete remission, lasting 238+ days. Five of 12 pts attained partial remissions with a median duration of 132 (range 91-222) days. Leukopenia was the most common dose limiting toxicity. Oral and parenteral Mesnum prevented hemorrhagic cystitis. We conclude from these preliminary data that IF is an effective drug in advanced osteosarcoma, lacking cross-resistance to commonly used first-line drugs such as Adriamycin, high-dose Methotrexate and possibly Cyclophosphamide. It deserves further investigation. (no Refs)

18. VM-26 AND DTIC IN THE TREATMENT OF EWING'S SARCOMA (MEETING ABSTRACT).

Campbell AM

Department of Clinical Haematology and Oncology, Royal Children's Hospital, Melbourne, Victoria 3052, Australia

Clinical Oncology Society of Australia, November 24-17, 1981, Melbourne, Australia. The Society 70 pp., 1981.

The purpose of the trial was to compare two schedules of triple chemotherapy in the treatment of Ewing's sarcoma arising in bone or soft tissues, evaluating disease response and host toxicity. All children with a tissue diagnosis of Ewing's sarcoma who had not received prior therapy, were entered into the trial. Combinations of surgery and radiotherapy to primary tumor were used and chemotherapy was given from the outset, patients being randomized to receive either 'A' or 'B' protocol. 'A' consisted of vincristine, adriamycin and dacarbazine (DTIC), 'B' being identical except for the substitution of VM-26 for vincristine. From July 1974-July 1981, 28 patients were entered onto study, age range 4-17 yr. Three had Stage IV disease at diagnosis, the remainder were localized. At time of evaluation, the percentage of patients surviving was 64%, at a median follow-up time of 26 mo. Eighteen patients were alive, 2 with recurrent disease, and 10 were dead. Adriamycin cardiotoxicity was seen in 6 patients and was fatal in 2 cases. There is no statistical significance in survival between protocols 'A' and 'B', and toxicity of both regimens was acceptable. It is concluded that VM-26 and DTIC are two other useful agents for inclusion in combination chemotherapy for Ewing's sarcoma, and future plans will include the addition of autologous bone marrow rescue for Stage IV and recurrent disease in particular. (no Refs)

19. INTRA-ARTERIAL CHEMOTHERAPY OF MALIGNANT FIBROUS HISTIOCYTOMA OF THE PELVIS.

Shuman LS, Chuang VP, Wallace S, Benjamin RS, Murray J

Dept. Diagnostic Radiology, M. D. Anderson Hosp. and Tumor Inst., Univ. Texas System Cancer Center, 6723 Bertner Ave., Houston, TX, 77030

Radiology; 142(2):343-346 1982

In three cases of malignant fibrous histiocytoma of the bony pelvis, intra-arterial chemotherapy was followed by surgical resection when possible in an attempt to control local disease without unacceptable deformity and treat undetected systemic metastases. Cis-diamminedichloroplatinum (CDDP) and a combination of intra-arterial doxorubicin, 5-(dimethyltriazeno)imidazole-4-carboxamide, and intravenous cyclophosphamide (CYADIC) were used. In two patients who underwent surgical resection, no viable tumor cells were found. The third patient did not respond to these or other forms of treatment. The patients treated with resection have shown no evidence of local recurrence at 24 and 9 mo, respectively. (Author abstract) (13 Refs)

20. CLINICAL EFFECTIVENESS OF CHEMOTHERAPY IN THE TREATMENT OF KAPOSI'S SARCOMA (MEETING ABSTRACT).

Beretta G, Brambilla L, Clerici M, Tabiadon D, Tedeschi L, Luporini G
Medical Oncology Department, S. Carlo Borromeo Hospital, 20153 Milan, Italy
UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

In the past 3 yr, 13 patients with histologically proved advanced Kaposi's sarcoma-Stage II nodular type, all localized in the skin of the limbs +/- face and trunk - were treated with Vincristine (VCR) or Vinblastine (VLB). The median age of the patients was 72 yr (range 59-86). VCR iv at doses greater than 2 mg/m(2)/weekly induced 2 partial responses (PR) and no change (NC) in 3 patients, with a median duration of 7 mo and survival of 18+ mo. Severe intestinal neurotoxicity (paralytic ileus) was seen in 2/3 patients. The VLB iv dose was 2-6 mg/m2 (median dose 4 mg/m(2))/weekly during the 1st mo (induction), and than every 2-3 wk as a maintenance therapy. The therapeutic response to VLB was 3 complete response + 3 PR. The duration of response was similar in CR and PR (median of 5+ mo, range 3+-9+). The median survival was 18+ mo in Cr and 7+ mo in PR. Toxicity from VLB was essentially a mild myelosuppression (WBC greater than 2500 less than 4000/mm(3)) in 4/6 patients. Five of 6 patients are still alive and on therapy. More recently 4 patients with more limited skin nodular lesions were treated with intralesional VCR (dose 0.2-0.4 mg/site, given once, or twice after a mo interval). Three of 4 patients have obtained CR, with a median duration of 6+ mo. Upon progression a further treatment with both concomitant VCR+VLB was able to induce a new objective response in 3/4 patients. Two other patients, treated respectively with Bleomycin and weekly-low dose Adriamycin, showed PR. Our experience confirms the activity of the currently available Vinca alkaloids, and evidences the high chemosensitivity of this malignant neoplasia. (no Refs)

21. HIGH DOSE IFOSFAMIDE IN THE TREATMENT OF SOFT TISSUE SARCOMA (MEETING ABSTRACT).

Stuart-Harris R, Harper PG, Parsons C, Harmer CL, McKinna JA, Wiltshaw E
Royal Marsden Hospital, London, England
UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

The results of treatment of advanced soft tissue sarcoma remain disappointing. Ifosfamide, a Cyclophosphamide analogue, has been shown to have single agent activity. Recent reports have shown that high doses can be given safely due to the prevention of hemorrhagic cystitis by 2 mercapto-ethane sodium sulphonate (Mesna). We have therefore undertaken a Phase II study of high dose Ifosfamide in the treatment of patients with metastatic soft tissue sarcoma. Sixteen patients have entered the study, of whom 6 had received previous chemotherapy. Thirteen are evaluable to date. Six received Ifosfamide 5 gm/m2 (max 7.5 gm) every 3 wk by 24 hr infusion, with Mesna 400 mg/m2 iv 4 hourly x 9. Seven received Ifosfamide 8 m g/m2 (max 12.0 g) with Mesna 600 mg/m2. A max of two courses were given. There were 3 partial responses with the lower dose regimen and 1 complete and 2 partial responses with the lower dose regimen. Overall response rate was 6/13 (46%). Treatment was accompanied by moderate leucopenia but Hb and Platelet values remained stable. No course was delayed by myelosuppression. Only one patient required treatment for infection. Microscopic hematuria occurred in 3 of 37 courses, but macroscopic hematuria occurrred on only one occasion. All patients experienced moderately severe nausea or vomiting and developed alopeica. High dose ifosfamide by 24 hr infusion has moderate activity in soft tissue sarcoma. Hemorrhagic cystitis was largerly prevented by Mesna. (no Refs)

22. PHASE II TRIAL WITH N-(PHOSPHONOACETYL)-L-ASPARTATE (PALA) IN ADVANCED SOFT TISSUE SARCOMA (MEETING ABSTRACT).

Bramwell V, Van Oosterom A, Mouridsen H, Cheix F, Somers R, Thomas D, Rozencweig M
No affiliation given
UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

PALA is a synthetic antimetabolite with striking anticancer properties in murine solid tumors. Thirty-six patient with measurable or evaluable advanced soft tissue sarcoma was entered in a phase II trial of this new drug. Nine patients were not evaluable for response because of early death (2), treatment refusal (2), protocol violations (2), loss to follow-up (1) or missing information (2). Among the 27 evaluable patients, 15 were men, the median age was 55 yr (16-69) and the median performance status (Karnofsky) was 80 (50-100). Most patients had leiomyosarcoma (8), liposarcoma (3), neurofibrosarcoma (3), synovial cell sarcoma (3), or indifferentiated sarcoma (3). Indicator lesions consisted essentially of lung metastases (21) and/or soft tissue lesions (14). All patients had received prior chemotherapy with 1 to 5 regimens and 6 had achieved objective response with these previous treatments. PALA was given a 60 min iv infusion at a daily dose of 2.5 g/m2 for two consecutive days. Courses were repeated every two wk. The study protocol called for dose escalations by increments of 20% if no toxicity was encountered. A median number of 3 courses (2-17) were administered. Partial remission (greater than 50%) was obtained in one patient with liposarcoma which had also responded to prior combination chemotherapy. This single response to PALA lasted 6 wk from initiation of therapy. Four patients had unchanged disease after 6 courses of PALA and 22 had progressive disease. Toxic effects were generally mild to moderate and included cutaneous toxicity (17), diarrhea (14), stomatitis (13), ocular manifestations consisting of conjunctivitis, corneal ulceration and/or photophobia (10), and nausea and vomiting (6). There was no evidence of drug-related myelosuppression. It is concluded that PALA given at the dose schedule selected for this trial has no significant antitumor activity in advanced soft tissue sarcoma previously treated with chemotherapy. (no Refs)

23. PREOPERATIVE INTRAARTERIAL INFUSION IN THE TREATMENT OF SOFT TISSUE SARCOMAS (MEETING ABSTRACT).

Azzarelli A, Quagliuolo V, Bonfanti G, Gennari L
Istituto Nazionale Tumori, Milan, Italy
UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

A study on preoperative adriamycin by ia infusion and radical surgery for operable soft tissue sarcomas of the lower limb is ongoing at this institution. The main purposes are to lower the risk of local relapse and metastastic diffusion, and to achieve an easier radical surgery. Preliminary data on 10 consecutive patients, not previously treated with radio- or chemotherapy, are available. All patients were given continuous ia infusion with adriamycin for 8 consecutive days up to a total dose of 100 mg/m2 radical surgery (6 wide resections and 2 exarticulations) was performed by the 6th day after infusion, 2 patients are presently awaiting surgery. Clinical examination and artériographic investigation were carried out before and after the infusion and regression of the tumor was found in 8 of 10 patients. In all cases postoperative histological examination revealed the presence of wide areas of necrosis replacing up to more than 90% of the tumor tissue (in all cases more than 50%, even in the case of scanty clinical improvement). In 3 patients surgical treatment was completed with radiotherapy, but also in these cases resection margins were microscopically not involved. Adriamycin toxicity was usual (alopecia, leukopenia); no cardiotoxicity and no technical complications related to arterial infusion were found. (no Refs)

SURGERY

24. THE USE OF THE B.A.S.K. TOTAL PROSTHESIS FOR THE RECONSTRUCTION OF THE PROXIMAL FEMUR AFTER TUMOR EXCISION.

Meadeb P, Koechlin P, Apoil A
Centre de Chirurgie orthopedique, Hopital Saint-Antoine, 184, rue du Faubourg Saint-Antoine, F 75571 Paris, France
Rev Chir Orthop; 67(7):655-658 1981

The use of a Bonvallet, Apoil, Sommelet, Kouvalchouk (BASK) prosthesis in 15 patients 23-96 old, (13 with metastases) for total hip replacement is described. One patient underwent surgery for a giant cell tumor, and another had a fibrosarcoma affecting the proximal femur. Metastases from breast cancer (6) were the most common. Three patients died in the postoperative period. All of the other 12 patients were able to walk 10-30 days postoperatively. On longterm followup, one patient died at 2 mo and another at 4 mo. Two patients were lost at follow up. Eight patients survived more than 4 mo. One patient experienced transitory pain during the first 2 mo. One patient fractured the prosthesis twice before dislocations or infections. The BASK prosthesis can repair bone losses as great as 13 cm with an adjustable femoral length device. It is suggested that the BASK device is particularly suited to surgery for metastatic tumors and for patients who are receiving palliative treatment. The relative fragility of the device and its not known longterm wear, make it less indicated for patients receiving curative therapy. (5 Refs) (In FRE)

25. HEMIPELVECTOMY AND INTERSCAPULOTHORACIC DISARTICULATION IN THE MANAGEMENT OF SARCOMAS (MEETING ABSTRACT).

Bignami P, Azzarelli A, Baticci F, Gennari L
Istituto Nazionale Tumori, Milan, Italy
UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

The purpose of this study is primarily to verify the validity, indication and selection rationale of the extended surgery in the treatment of the sarcomas of the scapular and pelvic girdle. At this institution 40 patients with extensive bone or soft tissue sarcomas underwent emipelvectomy (17 cases), or interscapulothoracic disarticulation (disart) (23 cases). According to histologic type we found 17 chondrosarcomas, 6 osteosarcomas, 1 malignant giant cell sarcoma and 16 soft tissue sarcomas. Of the 17 hemipelvectomy cases, 7 are alive without disease with a mean follow-up of 17.1 mo (range 1-43), and 10 have died with a mean survival time of 15.4 mo (range 2-45). Thirteen were performed for bone sarcomas and 4 for soft tissue sarcomas. Of 23 interscapulothoracic disart 9 are alive without disease with a mean follow-up of 25.1 mo (range 2-94) 13 have died with a mean survival of 17.8 mo (range 2-63), 1 was lost to follow-up. There was a significant difference in disease free survival between soft tissue sarcomas (7 of 12 are alive with 31 mo of mean follow-up), and bone sarcomas (only 2 of 11 are alive with poor follow-up: 2 and 7 mo). Our data show that hemipelvectomy and interscapulothoracic disart are indicated for primary soft tissue sarcomas of scapular and pelvic girdle as first surgical approach. Bone sarcomas has a much worse prognosis, and the indication to extended surgery is thus debatable. (no Refs)

MULTIMODAL THERAPY

26. ADVANCED SOFT TISSUE SARCOMAS: PRELIMINARY RESULTS OF RADIOTHERAPY WITH METRONIDAZOLE AND COMBINATION CHEMOTHERAPY (MEETING ABSTRACT).

Comella P, Scoppa G, Pergola M, Comella G, Coucourde F, Zarrilli D
Tumor Institute, Naples, Italy
UICC Conference on Clinical Oncology, October 28-31, 1981, Lausanne, Switzerland. International Union Against Cancer 131 pp., 1981.

From January 1980 to March 1981, thirteen patients with advanced soft tissue sarcoma (10 stage II-III, 3 stage IV) were treated with irradiation therapy, with a dosage of 5-7 Gy/day, on e day a wk, up to a total dose of 42-50 Gy. Metronidazole, 4-6 g/mq, was po given each day of irradiation. At the start of radiotherapy, a combination chemotherapy with dactinomycin (DACT) 450 mg/mq iv (days 1-5), adriamycin (VCR) 20 mg/mq iv (days 19-21 and 35-37), vincristine (VCR) 1.5 mg/mq iv (days 51, 58, 65, 72) and cyclophosphamide (CTX) 1200 mg/mq iv (days 51 and 65) was administered every 90 days. Response to therapy was evaluated as follows: complete remission (CR), partial remission (PR), stable disease (SD), progression disease (PD). Out of 13 patients, 8 (62%) had PR, 4 (30%) had SD, and 1 (8%) has PD. After 18 mo of follow-up, response to therapy persists in 69% of PR and in 50% of SD, and the overall actuarial survival rate is 84% (PR equals 100%, SD equals 50%). We believe that our encouraging results are the consequence of the specific fractioning of radiotherapy, enhanced by the administration of a radiosensitizer, and more than the effect of the combination chemotherapy. The gastrointestinal disturbance of metronidazole was confirmed in our experience, but neurotoxicity was never observed. (no Refs)

27. MULTIDISCIPLINARY TREATMENT OF SOFT TISSUE SARCOMAS: AN IMPROVEMENT IN PROGNOSIS.

Abbatucci JS, Boulier N, Mandard AM, De Ranieri J, Tanguy A, Chasle J
Service des Radiations, Centre Francois-Baclesse, route de Lion-sur-Mer, F. 14021 Caen Cedex, France
Bull Cancer (Paris); 68(5):428-436 1981

The results obtained in the treatment of 45 cases of soft tissue sarcomas are presented. All cases were reviewed and classified according to the modern criteria of malignancy. The treatment schedule comprised: (1) preoperative irradiation: 2 sessions of 6.50 Gy in 48 hr, target volume: whole limb segment; (2) surgical excision 48 hr later with systematic intraoperative histologic verification, until healthy tissue margins are obtained; (3) postoperative irradiation: 3 wk later delivering a cumulative total dose of 50.00 Gy to the preoperative vol and 60.00-70.00 Gy to a reduced vol encompassing the surgical region with protection of vascular axes where possible; (4) chemotherapy: Actinomycin D 0.3 mg/m2 half an hour before the first five sessions of postoperative irradiation; (5) bilateral lung irradiation: four sessions of 3.75 Gy in 7 days to the whole chest. The results were as follows: local recurrence rate was 9.5% at 5 yr. In 21 cases in whom surgical excision was deemed histologically adequate, no recurrences were seen at 3 yr (minimum follow-up). Survival at 5 yr was 77%. Deaths were due to metastatic spread, especially to the lungs. These results show an improvement as compared with historical series. New progress should be sought in combining a more aggressive type of chemotherapy for cases with high metastatic risk. (Author abstract) (32 Refs) (In FRE)

28. RHABDOMYOSARCOMA OF THE FEMALE UROGENITAL TRACT.

Hays DM, Raney RB, Lawrence W, Gehan EA, Soule EH, Tefft M, Maurer HM
Children's Hosp. Los Angeles, P.O. Box 54700, Terminal Annex, Los Angeles, CA, 90054
J Pediatr Surg; 16(6):828-834 1981

Results of management of 27 female patients (up to 21 yr old) with rhabdomyosarcoma of the urogenital tract are presented. Pelvic exenteration followed by irradiation and a 2-yr course of prophylactic multiple agent chemotherapy (vincristine, dactinomycin, cyclophosphamide) for primary bladder or vaginal tumors were found to be effective. Partial cystectomy for bladder rhabdomyosarcoma was inferior to exenteration, although the beneficial effects of chemotherapy-radiotherapy were apparent. Patients treated by similar limited surgical procedures for bladder rhabdomyosarcoma prior to chemotherapy had relapse rates of almost 100%. Six of eight patients with nondisseminated primary vaginal tumors did not have initial complete tumor resection; 6/8 had inadequate or no radiotherapy. The lack of mortality in this group after observations of 36-74 mo, all patients being tumor-free, indicates that vaginal tumors are particularly susceptible to chemotherapy. A variety of different surgical procedures were found to be effective against this tumor. Patients with vulval primaries were treated surgically by complete tumor excision and have done well on prophylactic chemotherapy with or without radiotherapy. In 11 patients subjected to lymphadenectomy for bladder, vaginal, or vulval lesions, only one dissection was positive. (17 Refs)

29. TREATMENT OF RHABDOMYOSARCOMA PATIENTS.

Vitsyn BA, Guzhov VK
Surgical Clinic, Medical inst., Novosibirsk, USSR
Khirurgiia (Mosk); (11):77-79 1981

Results of the treatment in 39 patients (22 men, 17 women; 18-75 yr old) with rhabdomyosarcoma are reported. Tumors were located in upper extremities (10), chest wall (6), lower extremities (19), or in the buttock (4); 23 patients had primary tumors and 16 had recurrent tumors. Clinical symptoms included progressive tumor growth, pain, or skin ulceration. Of 39 patients, 18 underwent wide fascial dissection of the tumor, 5 underwent amputation, and 16 underwent surgery in combination with preoperative radiotherapy. Tumor recurrences were observed in 12/18 patients subjected to tumor dissection, 1/5 patients subjected to amputation, and 3/16 patients subjected to combined therapy. of 39 patients, 17 died within the first 2 yr after the treatment; only 13 patients survived for 5 yr. The 5-yr survival after combined therapy was comparable to that after surgery alone. (10 Refs) (In RUS)

30. RESULTS OF TREATMENT OF PATIENTS WITH SYNOVIAL SARCOMA.

Ternovoi KS, Knysh IT, Borisiuk BE, Tolstopiatov BA
Republican Clinical Hosp., Kiev, USSR
Khirurgiia (Mosk); (11):83-85 1981

Long-term results of the treatment in 220 patients (104 men, 116 women; less tha n 14 to greater than 70 yr old) with synovial sarcoma are reported. Tumors were located in upper extremities (65), lower extremities (131), or in the trunk (24). Of 220 patients, 108 underwent surgery alone, 104 underwent surgery in combination with radiotherapy or chemotherapy, 3 underwent radiotherapy alone, and 5 underwent chemotherapy alone. The 3-and 5-yr survival rates for female patients were 73.3% and 58.2%, respectively, compared with 53.6% and 36.0%, respectively, for male patients. Survival rates did not depend upon the histology of the sarcoma. The 3-and 5-yr survival rates after surgery alone were 71.0% and 53.9%, respectively, compared with 55.2% and 40.7%, respectively, after combined treatment. (10 Refs) (In RUS)

31. CEREBELLAR HEMANGIOBLASTOMAS.

Sung DI, Chang CH, Harisiadis L
Dept. Radiation Oncology, Allegheny Valley Hosp., 1301 Carlisle St., Natrona Heights, PA, 15065
Cancer; 49(3):553-555 1982

Between 1950 and 1976, 24 patients with cerebellar hemangioblastomas received postoperative radiation therapy. In retrospect, the low-dose radiotherapy that was practiced in the 1950s and early 1960s has been associated with inferior survival rates. Since 1963 and with increased awareness of the effects of radiotherapy, patients receiving high-dose irradiation postoperatively have generally survival longer. Postoperative radiotherapy is used whenever the neoplasm has not been totally excised. This is more likely to occur with solid hemangioblastoma and neoplasms arising in the brain stem. In addition, radiotherapy should be used when the tumor recurs after total excision. The recommended dose is in the range of 4,500-5,000 rad in 4 1/2-5 weeks. (Author abstract) (11 Refs)

CASE REPORTS

32. POSTIRRADIATION SARCOMA (MALIGNANT FIBROUS HISTIOCYTOMA) FOLLOWING CERVIX CANCER.

Pinkston JA, Sekine I
Editorial Office, Radiation Effects Res. Foundation, 5-2 Hijiyama Park, Minami-ku, Hiroshima 730, Japan
Cancer; 49(3):434-438 1982

A case of postirradiation sarcoma is described. The tumor, a malignant fibrous histiocytoma, occurred in the radiation field 11 yr following postoperative external beam radiation therapy (7,000 rad) for carcinoma of the cervix. Reports of postirradiation malignant fibrous histiocytoma are rare, and the occurrence of this neoplasm following treatment for cervix cancer has not previously been described. The literature concerning postirradiation bone and soft tissue sarcoma is briefly reviewed, with special attention to malignant fibrous histiocytomas. (Author abstract) (29 Refs)

33. MALIGNANT FIBROUS HISTIOCYTOMA OF THE LUNG.

Paulsen SM, Egeblad K, Christensen J
Inst. Pathology, Aalborg sygehus, DK-9000 Aalborg, Denmark
Virchows Arch [Pathol Anat]; 394(1/2):167-176 1981

A case of malignant fibrous histiocytoma of the lung is reported. The tumor margin was well circumscribed, showing an expanding border and no capsule. The main part of the tumor was composed of spindle-shaped fibroblast-like cells arranged in broad fascicles with a partially storiform pattern. Other parts of the tumor were arranged in a haphazard pattern, containing many mononucleated and multinucleated giant cells. Ultrastructurally six different cell types were encountered. The dominant type was a fibroblast-like cell; also present were many giant cells and some histiocyte-like cells, together with their intermediate forms, and few undifferentiated mesenchymal cells. We consider this tumor to have developed from the peribronchial connective tissue; it has the same cellular composition as the malignant counterpart arising in soft tissues. (Author abstract) (22 Refs)

34. MALIGNANT FIBROUS HISTIOCYTOMA OF THE TEMPORAL BONE WITH INTRACRANIAL EXTENSION.

Chitale VS, Sundaresan N, Helson L, Huvos AG
(c/o Helson) Dept. Pediatrics, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Acta Neurochir (Wien); 59(3/4):239-246 1981

An 18-yr-old male presented with a right temporal bone tumor; histology revealed malignant fibrous histiocytoma. Following surgical excision and radiation the tumor recurred. The patient was treated with Vindesine (desacetyl vinblastine amide sulfate) with marked response. Malignant fibrous histiocytomas of the temporal bone are extremely rare; this report suggests that the occasional dramatic response may be obtained by combined modality treatment. (Author abstract) (19 Refs)

35. INTRATHORACIC CHORDOMA PRESENTING AS A POSTERIOR SUPERIOR MEDIASTINAL TUMOR.

Cotler HB, Cohn HE, Israel HI, Gartland JJ
Philadelphia, PA
Jefferson Orthop J; 10(1):46-52 1981

A 14-yr-old girl who presented with cough was evaluated because of a superior posterior mediastinal tumor. Barium swallow revealed a 5.7 cm mass that displaced the esophagus to the right and the trachea anteriorly. Computed tomography demonstrated that the mass was inhomogeneous and some bone erosion had occurred. At thoracotomy, the cyst was excised except for its base which was adherent to the anterior spinal ligament at the third thoracic vertebra. Permanent sections were interpreted as chordoma. The cyst remnant and anterior portions of the involved vertebrae were removed later. There was no evidence of recurrence after 3 yr. (29 Refs)

36. KAPOSI'S SARCOMA AFTER STEROID THERAPY FOR PEMPHIGUS FOLIACEUS: CASE REPORT AND SHORT REVIEW OF LITERATURE.

Ilie B, Brenner S, Lipitz R, Krakowski A
Dept. Pathology, Ichilov Hosp., 6, Weizman St., Tel-Aviv, Israel
Dermatologica; 163(6):455-459 1981

Rapid evolution of Kaposi's sarcoma terminating in death, appearing in a pemphigus patient treated by corticosteroids, is described and the literature is reviewed. (Author abstract) (18 Refs)

37. PRIMARY INTRACRANIAL MESENCHYMAL CHONDROSARCOMA: CASE REPORT WITH REVIEW OF THE LITERATURE.

Kubota T, Hayashi M, Yamamoto S, Heros RC
Dept. Neurosurgery, Sch. Medicine, Univ. Kanazawa, 13-1 Takara-Machi, Kanazawa, 920, Japan
Neurosurgery; 10(1):105-110 1982

A case of a large intracranial mesenchymal chondrosarcoma in a 21-yr-old woman, with probable distant metastases to the humerus and lung, is described. Pathological and clinical findings are discussed, and the present case is compared with 19 others reported in the literature; comments are given on a patient whose tumor was similar to the present one. It is emphasized that mesenchymal chondrosarcoma is a distinct clinical entity, and that it should be regarded separately from other cranial or intracranial tumors containing osteocartilaginous components. (20 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

38. EPIDEMIOLOGIC ASPECTS OF THE CURRENT OUTBREAK OF KAPOSI'S SARCOMA AND OPPORTUNISTIC INFECTIONS.

CDC Task Force on Kaposi's Sarcoma and Opportunistic Infections
(c/o J. Curran) Technical Information Services, Centers for Disease Control, Atlanta, GA, 30333
N Engl J Med; 306(4):248-252 1982

Surveillance activities and current epidemiologic knowledge of the recent outbreak of Kaposi's sarcoma and opportunistic infections among homosexual men in the United States are described. During the period June 1-November 10, 1981, 159 cases of Kaposi's sarcoma, Pneumocystis carinii pneumonia, and other opportunistic infections in persons less than 60 yr old were reported to the Centers for Disease Control. Among 76 men with P. carinii pneumonia, 30 died of the initial infection. Of 46 survivors, 13 subsequently died, including 4/8 who had recurrent P. carinii pneumonia. The remaining deaths were attributed to Kaposi's sarcoma or to other opportunistic infections. Among 15 patients with both Kaposi's sarcoma and P. carinii pneumonia, Kaposi's sarcoma was diagnosed first in 6, pneumonia was diagnosed first in 6, and the diagnoses were simultaneous in 3. Of 10 patients with other serious opportunistic infections, 4 had progressive or disseminated herpes simplex virus infections. Over 40% of patients with Kaposi's sarcoma, P. carinii pneumonia, or both had other serious opportunistic infections. A secular increase in the number of reported cases was observed. All but one of the 159 cases occurred in men, 92% of whom were reported to be homosexual or bisexual.

Over 75% of patients lived in New York City, San Francisco, or Los Angeles. (25 Refs)

39. HOUSEHOLD RISKS WITH INORGANIC FIBERS.

Selikoff IJ, Sachs H, Repace J. Moschandreas D, Burbank B, Wilder S

Environmental Sciences Lab., Mount Sinai Sch. Medicine, City Univ. New York, New York, NY

Bull NY Acad Med; 57(10):947-961 1981

Risks associated with asbestos exposure are discussed including historical background, product use, clinical latency, pleural abnormalities, interaction with smoking, association with mesothelioma, and family contact asbestos disease. An ongoing study of 17,800 insulation workers initiated in 1967 revealed in a 10-yr period, total deaths of 2,271, 995 from cancer, 486 from lung cancer, and 175 from mesothelioma. period. Expected mortalities were 1,659, 320, 106, and zero deaths, respectively. Little change in the cancer rates of these workers was present until 15-20 yr from onset of exposure. Pleural abnormalities included interstitial fibrosis, often with fibrotic plaques. Death rate (per 100,000) for non-smoking asbestos workers was 58/yr, for asbestos workers who smoked 601/yr compared to control death rates, respectively, of 11/yr and 122/yr for non-smokers and smokers not working with asbestos, thus indicating a synergistic effect. Family contact asbestos disease is an increasing problem. Recent studies of 626 wives and children of asbestos workers revealed 209 abnormal roentgenograms. Asbestos exposure is also possible through items such as spackle compounds, papier mache, gloves, pipe insulation, and textiles. (16 Refs)

40. PREVALENCE AND INCIDENCE OF BENIGN ASBESTOS PLEURAL EFFUSION IN A WORKING POPULATION.

Epler GR, McLoud TC, Gaensler EA

(c/o Gaensler) 80 E Concord St., Boston, MA, 02118

JAMA; 247(5):617-622 1982

Benign asbestos effusion was defined by (1) exposure to asbestos, (2) confirmation by roentgenograms or thoracenteses, (3) no other disease related to pleural effusion, and (4) no malignant tumor within 3 years. There were 34 benign effusions among 1,135 exposed workers compared with no otherwise unexplained effusions among 717 control subjects. Prevalence was dose related with 7.0%, 3.7%, and 0.2% effusions with severe (III), indirect (II), and peripheral (I) exposure, respectively. The latency period was shorter than for other asbestos-related disorders. Benign effusion was the most common asbestos-related abnormality during the first 20 years after exposure. Incidence studies showed 9.2 effusions per 1,000 person-years for Level III exposure, 3.9 for Level II, and 0.7 for Level I. Most effusions were small; 28.6% recurred, and 66% were asymptomatic. There was one mesothelioma six years after effusion. Asbestos exposure should be carefully searched for in patients with 'idiopathic' pleural effusion. (Author abstract) (24 Refs)

SELECTED PRE-CLINICAL STUDIES

41. ISOLATION AND CHARACTERIZATION OF A COLONY-STIMULATING FACTOR (CSF) FROM THE URINE OF FIBROSARCOMA-BEARING MICE (MEETING ABSTRACT).

Shikita M, Tsuneoka K, Bessho M, Hirashima K
National Institute Radiology Science, Chiba-shi 260, Japan
Proceedings of the Japanese Cancer Association, 40th Annual Meeting, October 198 1, Sapporo, Japan. The Association 415 pp., 1981.

It has been reported that transplantation of the fibrosarcoma (NFSA) to C3H mice resulted in marked increase of mature granulocytes in peripheral blood of the animals, and that granulocyte-macrophage colony-stimulating factor was secreted from the tumor cells cultured in vitro. In the present study, it was found that the tumor-bearing mice excreted a large amount of CSF in urine. The CSF was purified by diethylaminoethyl-cellulose column chromatography, isoelectrofocusing, gel-filtration on Ultrogel ACA 34, and finally by Concanavalin A (Con A) Sepharose affinity chromatography. It showed an isoelectric point at pH 3.0, and an apparent mol wt of 80,000. The results suggest that the CSF is a sialoglycoprotein resembling human urine CSF. In a preliminary experiment, the CSF stimulated the growth of human myeloid stem cells in semi-solid agar culture. This is inactive from human cells. (no Refs)

42. PLATELET-DERIVED GROWTH FACTOR INCREASES PROSTAGLANDIN PRODUCTION AND DECREASES EPIDERMAL GROWTH FACTOR RECEPTORS IN HUMAN OSTEOSARCOMA CELLS.

Shupnik MA, Antoniades HN, Tashjian AH
Lab. Toxicology, Harvard Sch. Public Health, Boston, MA, 02115
Life Sci; 30(4):347-353 1982

Human platelet-derived growth factor (PDGF) stimulated the production of prostaglandin E2 (PGE2) by G-292 cells, a clonal line of human osteosarcoma cells. Half-maximal stimulation occurred with 9 ng/ml PDGF and maximal stimulation, three-fold above control values, occurred with 40 ng/ml of the protein. Treatment of G-292 cells with 40 ng/ml PDGF also reduced the binding of iodinated epidermal growth factor (EGF) to EGF receptor on G-292 cells. The effect was time-dependent, and EGF binding was reduced to 60% of control by 24-48 hr. PDGF did not, however, compete directly for binding to the EGF receptor. The effects of PDGF and EGF on increased PGE2 production appeared to be additive at all concentrations tested, indicating that they may act through a common pathway, but not via the same membrane receptors. (Author abstract) (27 Refs)

43. INHIBITORY EFFECT OF L HOMOARGININE ON MURINE OSTEOSARCOMA CELL PROLIFERATION (MEETING ABSTRACT).

Kikuchi Y, Kizawa K, Kato K
Department of Obstetrics and Gynecology, National Defence Medical College, Tokorozawa, Saitama, Japan
Proceedings of the Japanese Cancer Association, 40th Annual Meeting, October 1981, Sapporo, Japan. The Association 415 pp., 1981.

It has been generally recognized that the activity of alkaline phosphatase (AlP) is associated with various cell membranes. AlP plays an important role in the transport of various molecules across membranes. Cytochemical studies indicate that the AlP is localized in the plasma membranes of normal and malignant cells. Previous studies have suggested that cell surface properties, including AIP activity, are associated with the control of cell proliferation. Osteosarcoma (OS) cells used in the present study originate from osseous tissue and produce AIP. Since bone AIP inhibitors can affect AIP of OS cells, this study was undertaken to determine if AIP inhibitors also effect cell proliferation in vitro or in vivo. Finally, we report that L homoarginine, a bone-specific AIP inhibitor, inhibits proliferation and AIP activity of mouse OS cells and appears to promote cell differentiation as evidenced by increased acid phosphatase activity and synthesis of cytoplasmic granules. (no Refs)

44. DEFINITION OF A THY-1 DETERMINANT ON HUMAN NEUROBLASTOMA, GLIOMA, SARCOMA, AND TERATOMA CELLS WITH A MONOCLONAL ANTIBODY.

Seeger RC, Danon YL, Rayner SA, Hoover F
Dept. Pediatrics, Center Health Sciences, Univ. California Los Angeles Sch. Medicine, Los Angeles, CA, 90024
J Immunol; 128(2):983-989 1982

Neuroblastoma, glioma, rhabdomyosarcoma, leiomyosarcoma, and teratoma cells were shown to express an antigenic determinant of human Thy-1 with monoclonal antibody 390 (ab 390). Specificity of ab 390 for a determinant on Thy-1 was shown in three ways. (1) The distribution of antigenic determinant 390 (ag 390) among normal cells and tissues was that of human Thy-1. Quantitative absorption of ab 390 with adult tissues demonstrated a large quantity of ag 390 associated with brain, at least 90-fold less associated with kidney, and 150 to 10,000-fold less associated with lung, thymus, liver, adrenal, colon, and muscle. Ab 390 reacted strongly with cultured fibroblasts and also with 12% of thymocytes; it did not react with blood monocytes, lymphocytes, erythrocytes, or with bone marrow cells. (2) A molecule was isolated from deoxycholate solubilized human brain membranes by ab 390 affinity chromatography with Mr = 24,000. (3) Human brain Thy-1 that was purified by lentil lectin affinity chromatography specifically inhibited binding of ab 390 to LA-N-1 human neuroblastoma cells. In studies of 29 cultured tumor cell lines, ab 390 reacted strongly with gliomas and moderately with neuroblastomas, a rhabdomyosarcoma, a leiomyosarcoma, and teratomas. Its reactivity with medulloblastoma, melanoma, and carcinoma cell lines was weak or insignificant. A molecule with Mr = 26,000, which is the mw of fibroblast associated Thy-1, was purified from membranes of a neuroblastoma and a glioma cell line. Quantitative absorption of ab 390 with 50 noncultured tumors demonstrated that neuroblastomas, gliomas, and soft tissue sarcomas can express more ag 390 than all adult tissues except brain. Significant heterogeneity in the quantity of ag 390 associated with individual tumors within these positive classes was observed. These data suggest a variety of human tumor cells express Thy-1 on their surfaces. This expression appears to be appropriate for neuroblastoma, glioma, rhabdomyosarcoma, and leiomyosarcoma cells because normal cells of these same lineages also can express Thy-1. (Author abstract) (33 Refs)

☆ U.S. GOVERNMENT PRINTING OFFICE : 1982—361-847/120

AUTHOR INDEX WITH CITATION NUMBERS

Abbatucci JS 27
Antoniades HN 42
Aoki N 10
Apoil A 24
Ayala A 15
Azzarelli A 23
Azzarelli A 25
Baticci F 25
Benjamin RS 15
Benjamin RS 19
Beretta G 20
Bessho M 41
Bhagavan BS 7
Bignami P 25
Bonfanti G 23
Borisiuk BE 30
Borts FT 13
Boulier N 27
Brambilla L 20
Bramwell V 22
Brenner S 36
Burbank B 39
CDC Task Force 38
Campbell AM 18
Chang CH 31
Charnsangavej C 15
Chasle J 27
Cheix F 22
Chitale VS 34
Christensen J 33
Chuang VP 15
Chuang VP 19
Cinti S 11
Clerici M 20
Cohn HE 35
Comella G 26
Comella P 26
Contesso G 3
Cotler HB 35
Coucourde F 26
Cserhati M 16
Cserhati M 17
Danon YL 44
De Ranieri J 27
Dorfman HD 7
Egeblad K 33
Epler GR 40
Fujiwara M 10
Gaensler EA 40
Gartland JJ 35
Gehan EA 28
Genin J 3
Gennari L 23
Gennari L 25
Ghandur-Mnaymne 8
Grant EG 13
Gronvall S 13
Groscurth P 16
Guzhov VK 29
Harisiadis L 31
Harmer CL 21
Harper PG 21
Harwood-Nash DC 2
Hayashi M 37
Hays DM 28
Helson L 34
Heros RC 37
Hirashima K 41
Holm HH 13
Honegger HP 16
Hoover F 44
Huvos AG 34
Ilie B 36
Israel HI 35
Jaffe N 15
Kaibara N 9
Kato K 43
Kikuchi F 14
Kikuchi Y 43
Kimura O 9
Kizawa K 43
Knysh IT 30
Koechlin P 24
Koga S 9
Krakowski A 36
Krekeler G 6
Kroner T 17
Kubota T 37
Lawrence W 28
Le Chevalier T 3
Lipitz R 36
Luporini G 20
Machinami R 14
Mandard AM 27
Marti C 17
Maurer HM 28
Mavligit G 15
Mazabraud A 12
McKinna JA 21
McLoud TC 40
Meadeb P 24
Milgram JW 4
Miyamoto H 10
Mnaymneh W 8
Mosca L 11
Moschandreas D 39
Mouridsen H 22
Murray J 15
Murray J 19
Myskowski PL 5
Nakagawa H 10
Niederdellmann 6
Nishidoi H 9
Okamoto T 9
Osculati F 11
Parravicini C 11
Parsons C 21
Patt Y 15
Paulsen SM 33
Pejovic MH 3
Pergola M 26
Pinkston JA 32
Quagliuolo V 23
Raney RB 28
Rayner SA 44
Repace J 39
Romano JF 5
Rouesse J 3
Rozencweig M 22
Sachs H 39
Safai B 5
Sarosi TE 13
Sarrazin D 3
Schellinger D 13
Scoppa G 26
Scotti G 2
Seeger RC 44
Sekine I 32
Selikoff IJ 39
Shikita M 41
Shuman LS 19
Shupnik MA 42
Sim FH 1
Somers R 22
Soo CS 15
Soule EH 1
Soule EH 28
Stuart-Harris R 21
Sundaresan N 34
Sung DI 31
Tabiadon D 20
Takahama M 10
Takizawa T 10
Takubo K 10
Tamura H 9
Tanguy A 27
Tashjian AH 42
Taylor WF 1
Tedeschi L 20
Tefft M 28
Ternovoi KS 30
Thomas D 22
Tolstopiatov BA 30
Tsuchiya S 10
Tsuneoka K 41
Van Oosterom A 22
Vitsyn BA 29
Volpe R 12
Von Hochstetter 16
Wallace S 15
Wallace S 19
Wilder S 39
Wiltshaw E 21
Wright PH 1
Yamamoto S 37
Zarrilli D 26
Zornoza J 15
Zych G 8

Keep Up with the Cancer Literature

Each Month You Can Receive Abstracts Covering Your Specialty Area

- This convenient service — called Auto SDI* — is as near as your nearest biomedical library. Discuss your research interests with the librarian who will design an appropriate search strategy.
- Abstracts of the latest published literature are searched automatically each month and those related to your interests are delivered to you on a regular basis.
- The abstracts you receive are selected from more than 4,000 monthly entries made into CANCERLIT — the extensive cancer literature data base of the National Cancer Institute.

Talk With Your Librarian About the Auto SDI Service TODAY.

---

*Auto SDI stands for Automatic Selective Dissemination of Information. It is a service provided to you, at minimal cost, by the International Cancer Research Data Bank (ICRDB) — a part of the National Cancer Institute.

INTERNATIONAL CANCER RESEARCH
DATA BANK

Compilation of Experimental Cancer Therapy Protocol Summaries

COMPLIMENTARY COPIES
NOW AVAILABLE

April 1982
Sixth Edition

CONTENT

This document contains summaries of over 1200 open experimental clinical cancer therapy protocols from countries around the world.

Open protocols are arranged in sections according to the specific typ of cancer.

Protocols closed in 1981 are listed by title, number, and investigator in a separate section.

INDEXES

Tumor index
Agent/Modality index
Protocol identification number index

Mail to:
Compilation Request
ICRDB Program
National Cancer Institute
Westwood Building Room 10A18
Bethesda, Maryland 20205

Request for 1982 COMPILATION
(Print Clearly for use as mailing label)

Name: ____________________

Address: ____________________

____

City/State/Zip: ____________________

Country: ____________________

CANCER LINE

More Than Just A Fancy Name

Mention CANCERLINE to your librarian and the world's foremost collection of cancer information is at your disposal. With the help of this computerized data system, you can obtain information on the following:

Cancer Literature

The literature date base, **CANCERLIT**, allows you to survey more than 3,000 biomedical journals for information on your topic of interest. Your search will also alert you to meeting proceedings, monographs, and books published in that area. Informative abstracts averaging 200 words are provided with each citation;

Current Cancer Research

The data base **CANCERPROJ** allows you to retrieve descriptions of current work in any cancer research area. The descriptions, which state research objective, methodology, and experimental results, are supplied for projects underway in 77 countries around the world.

Cancer Therapy Protocols

The **CLINPROT** section of CANCERLINE is designed primarily for clinicians. It provides detailed summaries of currently active experimental protocols for any cancer site, agent, or type.

Ask your biomedical librarian about CANCERLINE.
CANCERLINE is sponsored by the International Cancer Research Data Bank—a program of the National Cancer Institute.

CANCERLINE

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S. MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT 12/82/07

NCI/ICRDB/CT12 82/07

PB82-938707

NEWARK PUBLIC LIBRARY

SEP 17 1982

U. S. GOVT. DEPOSITORY 376

INTERNATIONAL CANCER RESEARCH DATA BANK

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/07

JULY, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

DID YOU KNOW?? EACH CANCERLIT SEARCH THAT PROVIDES YOU WITH USEFUL DATA CAN BE STORED IN THE COMPUTER FOR AUTOMATIC SEARCHING OF NEW DATA EACH MONTH. ASK YOUR LIBRARIAN ABOUT AUTOMATIC SELECTIVE DISSEMINATION OF INFORMATION (AUTO-SDI).

In this issue:

- DIAGNOSIS.. 1-11
- CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY.. 12
- CHEMOTHERAPY.. 13-17
- RADIOTHERAPY.. 18-21
- MULTIMODAL THERAPY.. 22-23
- CASE REPORTS.. 24-32
- SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY.. 33-37
- SELECTED PRE-CLINICAL STUDIES.. 38-39
- REVIEWS.. 40-42

DIAGNOSIS

1. CELLULAR SCHWANNOMA. A VARIETY OF SCHWANNOMA SOMETIMES MISTAKEN FOR A MALIGNANT TUMOR.

Woodruff JM, Susin M, Godwin TA, Martini N, Erlandson RA
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Am J Surg Pathol; 5(8):733-744 1981

Peripheral nerve tumors from 14 patients (7 men, 7 women, 25-81 yr old) were histologically identified as cellular schwannomas. The most common sites of origin were the posterior mediastinum (4/14), pelvis (3/14), and neck (2/14). The nerve

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service • National Institutes of Health • National Cancer Institute

HE 20. 3173/2:

of origin was identified in only 3/14 patients. Due to a variety of confusing histologic features (including moderate mitotic activity and moderate nuclear atypia), 6/14 tumors had been classified as fibrous histiocytoma, leiomyoma, malignant peripheral nerve sheath tumor, or sarcoma of uncertain origin. The erroneous impression of a malignancy was reinforced in two patients by clinical evidence of bony erosion and destruction. However, follow-up data on 8/14 patients and the presence of one tumor for 20 yr before excision indicated this tumor to be benign. (6 Refs)

2. RECURRENT MALIGNANT FIBROUS HISTIOCYTOMA. A HISTOLOGIC ANALYSIS OF 50 CASES.

Hashimoto H, Enjoji M
(c/o Enjoji) Second Dept. Pathology, Fac. Medicine, Kyushu Univ. 60, 3-1-1 Maidashi Higashi-ku, Fukuoka 812, Japan
Am J Surg Pathol; 5(8):753-760 1981

Malignant fibrous histiocytomas (MFH) recurred in 84/168 patients (32 women, 52 men; av 59 yr old). Superficial MFH recurred more often (61%) than deeply located MFH (50%), perhaps reflecting extent of resection of the primary tumor. Follow-up data were obtained for 108 patients, including 76 relapsing patients. Multiple recurrences developed in 50 patients. Median time to first relapse was 1.5 yr. In both the total group and the relapsing patients, the relative 5-yr survival rate (47% vs 51%) was inversely related to tumor invasiveness (84% for superficial MFH, 16-21% for muscular or visceral MFH) and primary tumor size. Specimens of the initial tumor and first recurrence were compared in 50 cases. Quantitative and qualitative histologic changes were noted in many of the recurrences. In the total group, a high histiocyte/fibroblast (H/F) ratio was associated with a higher survival rate (77%) than was a high F/H ratio (37%). However, if a recurrent MFH showed a higher H/F ratio than the original tumor, the survival rate was much lower (0%) than if the recurrence showed an unchanged H/F ratio (53%) or a greater preponderance of fibroblast-like cells than the primary tumor (69%). Increased nuclear atypism, mitotic figures, and/or cellularity in the recurrent MFH were prognostically unfavorable, although the extent of nuclear atypism and mitotic figures in the primary tumor was not related to survival. Close correlation was not observed between changes in cellular pleomorphism and survival, but a lesser degree of pleomorphism in a recurrent MFH (compared to the primary tumor) was favorable. Because radical surgery was associated with fewer recurrences (20% vs 63%) and better survival rate (86% vs 49%) than simple local excision, wide excision may be the preferable treatment for both primary and recurrent MFH. (8 Refs)

3. VARIABILITY OF HISTOLOGIC PATTERN IN RECURRENT SOFT TISSUE SARCOMAS ORIGINALLY DIAGNOSED AS LIPOSARCOMA.

Snover DC, Sumner HW, Dehner LP
Univ. Minnesota Medical Sch., Box 609 Mayo Memorial Bldg., 420 Delaware St. South East, Minneapolis, MN, 55455
Cancer; 49(5):1005-1015 1982

The histopathologic classification of liposarcoma and its clinicopathologic significance are well delineated in previous studies, but the literature is inexplicably mute on recurrent liposarcomas. Supposition and experience may have led to the assumption that the microscopic features remained static over a period of yr and multiple recurrences. Thirteen sarcomas originally classified as liposarcoma were reviewed to assess patterns of histologic change with recurrence. A total of 52 recurrences was studied. In 7 of the 13 cases, multiple morphologic sarcomatous patterns were identified, either as a change with recurrence or as multiple discrete patterns within a tumor. All changes except in one case occurred before irradiation or chemotherapy. The variations included patterns such as malignant fibrous histiocytoma, hemangiopericytoma, malignant schwannoma, and unclassified spindle-cell sarcoma as well as the various liposarcoma subtypes. This variability of patterns can cause significant diagnostic difficulties and can cause one to question the validity of using monomorphic diagnoses in all cases. In addition, the polymorphic differentiation of these tumors supports the concept that soft tissue sarcomas are derived from a pluripotential mesenchymal stem cell. (Author abstract) (22 Refs)

4. ATYPICAL LIPOMA.

Kindblom LG, Angervall L, Fassina AS
Dept. Pathology II, Sahlgren Hosp., S-413 45 Goteborg, Sweden
Acta Pathol Microbiol Scand [A]; 90(1):27-36 1982

In a previous clinico-pathologic and prognostic study of a Swedish national series of liposarcoma the designation atypical lipoma was suggested for a group of well-differentiated nonmetastasizing liposarcomas characterized by only moderate nuclear atypia. In the present report, 21 new cases of atypical lipoma are described. The tumors were mainly composed of univacuolated fat cells without cellular or nuclear atypia, but also showed univacuolated fat cells with enlarged, moderately polymorphic, dark nuclei. In two of the tumors a few multivacuolated fat cells with scalloped nuclei were found. Small multinucleated cells with overlapping, peripherally arranged nuclei, reminiscent of so-called floret-like cells as in pleomorphic lipoma, could occasionally be seen. Areas of generally delicate linear or patchy fibrosis with atypical nuclei were a common finding. Two atypical lipomas were studied ultrastructurally. The ultrastructural findings suggest that the nuclear polymorphism is of a neoplastic nature rather than of a regressive change. Nine atypical lipomas were located intramuscularly, 2 intermuscularly and 10 subcutaneously. Five of the sc tumors and three of the inter- and intramuscular tumors recurred one or more times. Most of them, particularly the sc ones, had primarily been diagnosed as ordinary lipomas, but reexamination of the histological sections after one or more recurrence revealed overlooked nuclear atypia. Metastasis or dedifferentiation at recurrence was not seen in any case. (Author abstract) (18 Refs)

5. ALVEOLAR SOFT-PART SARCOMA - A MALIGNANT ANGIORENINOMA. HISTOCHEMICAL, IMMUNOCYTOCHEMICAL, AND ELECTRON-MICROSCOPIC STUDY OF FOUR CASES.

DeSchryver-Kecskemeti K, Kraus FT, Engleman W, Lacy PE
Div. Surgical Pathology, Barnes Hosp., Barnes Hosp. Plaza, St. Louis, MO, 63110
Am J Surg Pathol; 6(1):5-18 1982

The histogenesis of alveolar soft-part sarcoma (ASPS) was investigated using tissue specimens from four patients. No patient had metastases and all were normotensive. Numerous electron-dense, membrane-bound organelles of variable size, shape, and electron density characterized the cytoplasm. Membrane-bound crystals had ultrastructural and immunocytochemical features identical to those of the granules of renal juxtaglomerular (J-G) cells. ASPS granules showed positive staining with fluorescent-tagged antibodies and exhibited blocking of the reaction by prior absorption with renin. Electron-probe x-ray microanalysis showed that the granules incorporates zinc. Results show that ASPS crystals share all morphologic characteristics of human J-G cell and J-G tumor cell granules; thus, a more appropriate name for ASPS would be malignant angioreninoma. Absence of hypertension in all four patients suggests the existence of a renin-like secretory product. The histogenesis of ASPS may involve metaplasia from smooth muscle cells of the arterial vasculature. (27 Refs)

6. COMPUTER TOMOGRAPHY AND ANGIOGRAPHY IN RENAL ANGIOMYOLIPOMA.

Kolmannskog F, Kolbenstvedt A, Nakstad PH, Aakhus T
Dept. Diagnostic Radiology, Rikshospitalet, Oslo, Norway
Acta Radiol [Diagn] (Stockh); 22(6):635-639 1981

Computer tomography and nephroangiography were performed in five patients with angiomyolipoma of the kidneys. CT was characteristic in all cases by demonstrating areas of fat in the tumor, and the extent of the neoplasm could be assessed preoperatively. Nephroangiography was of value as a preoperative demonstration of the vascular anatomy. In one case with a hemorrhage which nearly masked the fat component at CT, angiography added diagnostic information. (Author abstract) (9 Refs)

7. SONOGRAPHY OF EXOPHYTIC GASTROINTESTINAL LEIOMYOSARCOMA.

Subramanyam BR, Balthazar EJ, Raghavendra BN, Madamba MR
Dept. Radiology, New York Univ. Medical Center, 560 First Ave., New York, NY, 10016
Gastrointest Radiol; 7(1):47-51 1982

Cases of five patients (all males, 55-74 yr old) with exophytic leiomyosarcoma are presented and sonographic features and the role of sonography in the preoperative evaluation are discussed. Sonography examination was performed in all cases as the initial procedure. Sonography revealed the solid nature of the tumors. Two masses were hyperechoic with echo-free areas, one was hyperechoic at the periphery with a central fluid level, and two were hypoechoic with echo-free areas. Necrosis with or without liquefaction was present in all cases. In one cases, a metastatic lesion in the liver was also demonstrated to be necrotic. Necrosis without liquefaction appeared as echo-free zones without enhanced transmission, and liquefaction necrosis appeared as fluid-containing spaces. With a methodological approach, sonography can suggest the exact origin of the intra-abdominal tumor, based on visualization of the normal visceral organs, demonstration of the anterior location of the tumor, and detection of intestinal lumen and/or intraluminal air in the immediate proximity of the tumor. Differentiation of leiomyoma by sonography is possible only when metastatic lesions are detected. Two cases had metastatic lesions in the omentum and liver. Definitive differentiation was histologic. Criteria highly suggestive of gastrointestinal leiomyosarcoma are a large, solid mass, anteriorly located, outside the solid viscera, necrosis, and intestinal lumen and/or air in close relation to the ip mass. (22 Refs)

8. CT OF PERITONEAL MESOTHELIOMA: ANALYSIS OF EIGHT CASES.

Whitley NO, Brenner DE, Antman KH, Grant D, Aisner J
Dept. Diagnostic Radiology, Univ. Maryland Hosp., 22 S. Greene St., Baltimore, MD, 21201
AJR; 138(3):531-535 1982

In order to define the computed tomographic appearance of mesothelioma, eight patients with histologically proven peritoneal mesotheliomas had computed tomography (CT) performed during the course of their disease. CT findings for all cases were analyzed for evidence of tumor involvement in the peritoneum, mesentery, liver, bone, lymph nodes, and lower pleural space, and for ascitic and pleural fluid. CT findings included evidence of peritoneal involvement (7/8 patients, 88%), ascites (6/8, 75%), mesenteric involvement (6/8, 75%), pleural involvement (4/7, 57%), bone destruction (2/8, 25%), peritoneal mass (1/8, 12%), and retroperitoneal lymph node involvement (1/8, 12%). On the basis of diffuse mesenteric and peritoneal involvement and high incidence of ascites, CT may suggest the diagnosis of peritoneal mesothelioma; however, it may be difficult to differentiate from carcinomatosis, gastrointestinal malignancies, ovarian carcinomas, and, rarely, lymphomas. It is important to suggest the diagnosis of peritoneal mesothelioma because special stains and electron microscopy are necessary for pathologic diagnosis. Experience suggests that CT may be useful in suggesting the diagnosis and biopsy site, and after response to therapy of peritoneal mesothelioma. (Author abstract) (20 Refs)

9. PRIMARY CARDIAC TUMORS. EXPERIENCE WITH 25 CASES.

Larrieu AJ, Jamieson WR, Tyers GT, Burr LH, Munro AI, Miyagishima RT, Gerein AN, Allen P

(c/o Tyers) Div. Cardiovascular and Thoracic Surgery, Dept. Surgery, Univ. British Columbia, 700 W. 10th Ave., Vancouver, B.C., Canada

J Thorac Cardiovasc Surg; 83(3):339-349 1982

The case histories of patients with primary cardiac neoplasms are presented. The mean age was 49.6 yr and females predominated (17:8). Nineteen of the tumors were benign (76%), 18 myxomas and 1 mesenchymal hamartoma. There were six malignant neoplasms: two myxosarcomas, two rhabdomyosarcomas, one skeletal angiomatosis, and one malignant melanoma. The clinical presentation was congestive heart failure in 17 patients and peripheral embolization in 5 (1 patient with both). There were four asymptomatic patients. Antemortem diagnosis was made in 20 patients and 5 were discovered at autopsy. After 1970, almost 95% of the patients were diagnosed preoperatively while only 14% of the patients had preoperative diagnosis before 1970. Cardiac catheterization and echocardiography were the most useful diagnostic procedures performed but a computed tomographic scan of the heart performed in a patient with right ventricular hamartoma was of great value in delineating the lesion. Twenty-one patients underwent a total of 26 operations but complete excision of the lesion was possible in only 16 patients. Three patients underwent extensive resection and reconstruction. Associated procedures consisted of coronary artery bypass grafts in two patients, mitral valve annuloplasty in one, and a right lung biopsy. Although there was no operative mortality following the original procedure, one patient died after a third operation for recurrence and another underwent unsuccessful emergency pericardiectomy. All patients with malignant lesions died from recurrence 6 to 13 mo postoperatively while only three patients in the benign group died and these of unrelated causes. Surgical resection is the treatment of choice for all primary cardiac neoplasms since it is curative in the benign tumors and may prolong life for up to a year with malignant tumors. (Author abstract) (31 Refs)

10. CHONDROSARCOMA OF BONE WITH DEDIFFERENTIATION: A STUDY OF EIGHTEEN CASES.

McCarthy EF, Dorfman HD
Dept. Pathology, Sinai Hosp. Baltimore, Baltimore, MD, 21215
Hum Pathol; 13(1):36-40 1982

Eighteen patients with chondrosarcomas showing dedifferentiation were reviewed. Thirteen of the 14 patients in whom there was follow-up died of their tumors, with an av survival of 6 mo. The av age was 61, and the most common location was the distal femur. Eight patients presented with pathologic fractures. Radiographically the tumor appeared as a destructive area with an associated heavily calcified lesion. This corresponded to combined histologic patterns of high grade sarcoma, usually with features of a malignant fibrous histiocytoma, and a low grade chondrosarcoma. This lesion must be distinguished from a primary malignant fibrous histiocytoma of bone in view of the different prognostic implications. (Author abstract) (9 Refs)

11. HEMANGIOPERICYTOMA OF BONE.

Wold LE, Sim FH, Unni KK, Dahlin DC, Cooper KL
Section Publications, Mayo Clinic, Rochester, MN, 55905
Am J Surg Pathol; 6(1):53-58 1982

Clinical, roentgenographic, and histologic features and treatment results in 15 cases of hemangiopericytoma of bone are examined. Close similarity was observed between primary soft-tissue and osseous lesions. No difference in the age group affected or the mean age of patients with hemangiopericytoma of soft tissue or bone was found. The sexes were equally affected in the series (7 men, 8 women). Fourteen lesions involved the axial skeleton or mandible. One case was associated with hypophosphatemic osteomalacia. Although the results of treatment were difficult to evaluate, prognosis seemed poor. Initial treatment should include surgical removal, either by amputation or resection. Radiotherapy should be considered either as primary treatment or as adjuvant treatment when the lesion is not accessible to adequate surgical excision. (8 Refs)

CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY

12. IMMUNOTHERAPY WITH BCG VACCINE IN 30 CASES OF MESOTHELIOMA.

Webster I, Cochrane JW, Burkhardt KR
Natl. Center Occupational Health, Johannesburg, South Africa
S Afr Med J; 61(8):277-278 1982

Thirty patients with malignant pleural mesothelioma who underwent BCG vaccine immunotherapy are presented. There was an improved survival rate, compared with patients treated symptomatically only. Techniques of therapy are detailed and the importance of tumor load reduction and a prolonged injection schedule, is stressed. (Author abstract) (4 Refs)

CHEMOTHERAPY

13. ADJUVANT CHEMOTHERAPY FOR PATIENTS WITH SOFT TISSUE SARCOMAS.

Rosenberg SA, Tepper J, Glatstein E, Costa J, Young R, Seipp C, Wesley R
Surgery Branch, NCI, Building 10, Room 10N116, Bethesda, MD, 20205
Surg Clin North Am; 61(6):1415-1423 1981

Patients with soft tissue sarcomas of the extremities were randomized to undergo amputation followed by chemotherapy, or en bloc resection of all gross tumor followed by radiotherapy (RT: 5,000 R to the involved segment, 6,000-7,000 R to the tumor bed), followed by chemotherapy or no further treatment. The 28-day chemotherapy cycles began on day 3 before RT was begun. Adriamycin (ADR: 50 mg/square meter [m2]; max 70 mg/m2) and cyclophosphamide (CP: 500 mg/m2; max 700 mg/m2) were given on day 1 of each cycle and increased if toxicity permitted. After the max cumulative ADR dose was reached (500-550 mg/m2), treatment was changed to 28-day cycles of methotrexate (MTX: 50 mg/kg, max 250 mg/kg, 6-hr iv infusion) and citrovorum factor (CF: 15 mg/m2 x 8 at 6-hr intervals, iv), with increased doses each cycle if toxicity permitted. More CF was given if the 48-hr blood MTX level was greater than 4 x 10(-7) M. The failure rate was significantly lower with chemotherapy (3/30 patients) than without chemotherapy (7/21). The 3-yr disease-free survival rate was significantly higher with chemotherapy (88%) than without chemotherapy (57%). Patients with soft tissue sarcomas of the head, neck, or trunk underwent en bloc tumor resection followed by RT, chemotherapy (19/35 patients) or no further treatment (16/35). The treatment groups were not significantly different in the failure rates (7/19 vs 3/16) or 3-yr survival rates. The poorer outcome in this group was attributed to a higher local recurrence rate (5/35 patients), as compared to the patients with tumors of the extremities (2/51). These doses of ADR and CP caused significant cardiotoxicity. A prospective trial using lower doses of ADR and CP has been begun. (2 Refs)

14. ADJUVANT CHEMOTHERAPY FOR PRIMARY OSTEOGENIC SARCOMA.

Cortes EP, Holland JF
Officer of Cancer Programs, Long Island Jewish-Hillside Medical Center, New Hyde Park, NY 11042
Surg Clin North Am; 61(6):1391-1404 1981

Adjuvant chemotherapy for primary osteogenic sarcoma is reviewed. In patients with osteosarcoma, the 5-yr disease-free (NED) survival rate with radical surgery alone is about 20%. Almost every adjuvant chemotherapy tested gives a 2-yr NED survival rate of about 80%; at 5 yr, the rate levels off at 40-60%. The most effective single-agent treatments are adriamycin (ADR) and high-dose methotrexate (MTX) with citrovorum factor. A 6-mo outpatient course of ADR is at least as effective as an 18-mo inpatient course of high-dose MTX. ADR must not exceed a cumulative dose of 550 mg/square meter because due to cardiotoxicity. High-dose MTX is available only for research purposes; the dose must be at least 200 mg/kg and must be given to inpatients. Combination chemotherapy is no more effective than ADR alone. Preoperative chemotherapy and limb-preserving surgery (not available at most hospitals) gives a high NED survival rate; however, the patients are a highly selected group having small primary tumors and histologically negative soft tissue resection margins. The roles of prophylactic pulmonary irradiation and immunotherapy are not clear; the treatments should be given only as part of a research study. In view of the rarity of osteosarcoma, patients and physicians must be encouraged to participate in research studies. Further research is needed to increase the 5-yr NED rate to a level more acceptable to teenaged patients. (60 Refs)

15. ADJUVANT CHEMOTHERAPY FOR OSTEOSARCOMA: A DECADE OF EXPERIENCE.

Goorin AM, Frei E, Abelson HT
Dept. Pediatrics, Sidney Farber Cancer Inst., 44 Binney St. (Dana 1844), Boston, MA, 02115
Surg Clin North Am; 61(6):1379-1389 1981

Adjuvant chemotherapy was given to 90 osteogenic sarcoma patients in four study groups. Follow-up times were 65-111 mo in 12 patients given vincristine (VCR) and high-dose methotrexate with citrovorum factor (HD-MTX/CF: every 4 wk x 18 mo); 54-79 mo in 22 patients given the same treatment plus adriamycin (ADR); 4-52 mo (median, 28 mo) to date in 48 patients given more intensive VCR-MTX/CF therapy (weekly courses at the beginning, middle, and end of a 12-mo period); and 30-67 mo in 22 patients given preoperative VCR-HD-MTX/CF (with or without ADR) before limb-salvage surgery. The overall and disease-free (NED) survival rates improved as chemotherapy was made more aggressive. In the total group, 68/90 patients (75.6%) were alive and 56/90 (62%) were NED at the time of report. Most of the 34 relapses developed within 1.5 yr (28-42 mo in 3/34); 25/34 were to the lung, 3/34 to the bone, and 6/34 to both sites. After salvage therapy, 9/34 were NED after at least 4 mo. The NED survival rates after amputation (19/24) and limb-salvage surgery (12/19) were similar. It has been argued that modern surgery alone is as effective as surgery with adjuvant chemotherapy; on the other hand, that chemotherapy is necessary to achieve an optimal NED survival rate. Both arguments may be correct. This controversy might be resolved by randomizing carefully staged patients to postoperative adjuvant chemotherapy or the same chemotherapy only upon relapse. If the outcome of salvage therapy in the two groups is equivalent, the delayed-therapy program might save some patients from unnecessary treatment. Prognostic variables could also be reassessed in such a study. (18 Refs)

16. SELECTED APPLICATIONS OF METHOTREXATE ALONE AND IN COMBINATION IN OSTEOSARCOMA.

Pratt CB
St. Jude Children's Res. Hosp., 332 North Lauderdale, PO Box 318, Memphis, TN, 38101
Cancer Treat Rep; 65(Suppl1):107-111 1981

Review of the reported use of high-dose methotrexate (HDMTX) with citrovorum factor rescue (CF) for treatment of primary and metastatic osteosarcoma indicates the rarity of responses in clinical situations other than treatment of the primary tumor or isolated pulmonary metastases with doses of 7.5 g/m2 or greater delivered on a weekly basis for 4-6 wk. Adjuvant chemotherapy using HDMTX-CF at triweekly intervals has led to 2-yr disease-free survival rates that are inferior to those obtained with combinations of agents including HDMTX-CF Adriamycin (Adria), with or without vincristine, cyclophosphamide, phenylalanine mustard, bleomycin, and dactinomycin. We concluded that although HDMTX-CF has a role in the treatment of primary and metastatic osteosarcoma, its use in combination with other active agents offers greater potential advantage to affected patients. (Author abstract) (27 Refs)

17. PRELIMINARY EVALUATION OF HOLOXAN EFFECTIVENESS IN THE TREATMENT OF PATIENTS WITH MALIGNANT NEOPLASMS OF SOFT TISSUES AND BONES.

Utracka B, Czownicki Z
Klinika Radioterapii, Oddzial Instytutu Onkologii W Gliwicach, ul. Wybrzeze Armii Czerwonej 15, 44-101 Gliwice, Poland
Nowotwory; 31(2):147-153 1981

Thirteen patients (4 men and 9 women and girls, 5-53 yr old) with advanced malignant tumors of soft tissues and bones were treated with Holaxan (Ifosfamide). Rhabdomyosarcoma was diagnosed in three patients, nonspecified malignant neoplasm in six, Ewing's sarcoma in one, fibrosarcoma in one, and malignant mesenchymoma in two. All patients were pretreated by radiotherapy, surgery, chemotherapy or their combination. The interval between diagnosis and Holoxan treatment was 1-38 mo. The patients were treated according to one of two protocols: 50-60 mg/kg iv on days 1-5 at 28-day intervals, or 20-30 mg/kg iv on days 1-10 at 28-day intervals. Two patients with nonspecified malignant neoplasms achieved complete remission, three others (one with Ewing's sarcoma and two with rhabdomyosarcomas) partial remission. Progression o the disease was arrested by the treatment in two other patients. Progression of the malignant tumors was seen in the six other patients. The treatment was well tolerated. The side effects included nausea in 11 patients, emesis in 9, alopecia in 11, and leukopenia in 7. Mitexan prevented the toxic effect of the drug metabolites on the urinary tract epithelium. (26 Refs) (In POL)

RADIOTHERAPY

18. DEFINITIVE RADIATION THERAPY FOR CHORDOMA AND CHONDROSARCOMA OF BASE OF SKULL AND CERVICAL SPINE.

Suit HD, Goitein M, Munzenrider J, Verhey L, Davis KR, Koehler A, Linggood R, Ojemann RG
Dept. Radiation Medicine, Massachusetts General Hosp., Harvard Medical Sch., Boston, MA, 02114
J Neurosurg; 56(3):377-385 1982

Proton-beam radiation therapy has been developed for the treatment of chordomas or sarcomas of bone or soft tissue that abut the central nervous system. The authors report the results of treatment of 10 patients, 6 with chordoma, 3 with chondrosarcoma, and 1 with a neurofibrosarcoma. Local control has been achieved for all patients (with, however, one marginal failure) with a follow-up period ranging from 2 mo to 6 yr. High doses of radiation, up to 76 Cobalt Gray Equivalents (CGE), have been delivered without significant morbidity. In particular, no neurological sequelae have been observed. (Author abstract) (12 Refs)

19. FIFTEEN YEAR RADIOTHERAPY EXPERIENCE WITH CHONDROSARCOMA OF BONE.

McNaney D, Lindberg RD, Ayala AG, Barkley HT, Hussey DH
(c/o Lindberg) Div. Radiotherapy, Univ. Texas Anderson Hosp., 6723 Bertner Ave., Houston, TX, 77030
Int J Radiat Oncol Biol Phys; 8(2):187-190 1982

Effects of radiotherapy (RT) alone or in combination with other modalities were analyzed retrospectively in 20 patients (9 men, 11 women, 20-74 yr old) with chondrosarcoma of bone treated between 1961-1976. Thirteen tumors occurred in pelvic bones, 4 in vertebrae, 2 in distal femur, and 1 in maxillary antrum. RT consisted of supervoltage RT and/or neutrons. Eleven patients received RT alone, 3 patients received postoperative RT following less than radical local excision, 3 patients received RT with chemotherapy (CT) but without surgery, and 3 patients received RT for tumor recurrent after surgery. Results are presented; time intervals in mo were measured from the first day of RT. Typical tumor doses ranged from 4,000 to 7,000 rad at 1,000 rad/wk using parallel-opposed fields. The overall survival for RT alone is 54% at a median of 30 mo. CT and immunotherapy (cyclophosphamide, vincristine, adriamycin, dimethyl triazene imidazole carboxamide, chondrosarcoma lysates, and BCG scarification) were given after RT to a patients who was alive after 52 mo. Fifty-five percent of the patients treated for cure showed no evidence of progressive local disease at an av time of 38 mo. Two additional patients were salvaged after RT failure, increasing the overall survival rate to 65%. Severe complications were observed in five patients; three patients developed foot drop, and surgery was performed in other two revealing viable tumor in both cases. (7 Refs)

20. RADIATION THERAPY TECHNIQUE IN SOFT TISSUE SARCOMAS OF THE EXTREMITY: POLICIES OF TREATMENT AT THE NATIONAL CANCER INSTITUTE.

Tepper J, Rosenberg SA, Glatstein E
(c/o Glatstein) Radiation Oncology Branch, Div. Cancer Treatment, NCI, Bethesda, MD, 20205
Int J Radiat Oncol Biol Phys; 8(2):263-273 1982

The rationale and technique of radiation therapy (RT) in adult soft tissue sarcomas (STS) of the extremities as practiced at the National Cancer Institute is discussed. Seventy-five patients with extremity lesions have been treated for local control with conservative surgery and RT between 1975 and 1980. Biology of STS, histological and surgical considerations, radiation technique (shrinking field technique, field shaping, field arrangement, immobilization, beam parameters, gonadal shielding, gapping techniques), and physical therapy are described. Although details of treatment vary greatly depending on the discussed parameters, a number of technical principles maximize the likelihood of local tumor control and of a good functional result. The four major anatomical regions affected by STS are the thigh, leg and foot, arm, and forearm and hand. The thigh is the most difficult in which to attain a high level of local control and the most likely to suffer morbidity; it is also the site with the highest likelihood to develop STS. Involvement of physical therapy in the care of the patient as early in the course of their disease, and ideally before their surgical procedure, is extremely important. This is essential for maintaining good long term function of the extremity. For patients with STS of the extremities the positioning of the patient, field arrangement, and beam shaping must be highly individualized to obtain optimal treatment results. (15 Refs)

21. RADIATION THERAPY IN THE MANAGEMENT OF PATIENTS WITH MESOTHELIOMA.

Gordon W, Antman KH, Greenberger JS, Weichselbaum RR, Chaffey JT
(c/o Greenberger) Dept. Radiation Therapy, Joint Center Radiation Therapy, Harvard Medical Sch., 50 Binney St., Boston, MA, 02115
Int J Radiat Oncol Biol Phys; 8(1):19-25 1982

Twenty-seven patients with malignant mesothelioma were treated with curative (CRT: 8 patients: 5 men, 3 women; 26-60 yr old) or palliative (PRT: 19 patients: 18 men, 1 woman; 9-77 yr old) radiotherapy. Radical surgery was performed on all CRT patients. Two forms of CRT were planned: implant for small sites of residual disease with radioactive gold seeds or external beam radiotherapy to sites outlined as foci of residual disease by surgical clips placed intraoperatively. CRT was delivered to the chest postoperatively in 5/8 patients. Lung irradiation was also delivered to one patient who had received preoperative chest irradiation. Abdominal CRT was administered to two patients. CRT doses ranged from 5,600 rad in 43 days to 2,200 rad in 15 days. Combination adriamycin-containing chemotherapy regimens were used in 5/8 patients. Of eight patients, one achieved a 2-yr disease-free interval, one had persistent abdominal disease at 18 mo, and the other six suffered local recurrence within 8-13 mo of treatment initiation. PRT doses ranging from 800 rad in two fractions to 5,700 rad in 29 days were administered for treatment of pain (8 patients), superior vena cava obstruction (3), dyspnea or bronchial obstruction (5), difficulty in swallowing (1), and brain metastases (1). Complete relief of symptoms was achieved in one patient, significant relief of pain or shortness of breath in four, and moderate relief in six. Doses of 4,000-5,000 rad delivered in six courses produced significant relief of symptoms in four patients. Lower doses did not effectively relieve symptoms. (18 Refs)

MULTIMODAL THERAPY

22. PREOPERATIVE CHEMOTHERAPY FOR OSTEOGENIC SARCOMA: SELECTION OF POSTOPERATIVE ADJUVANT CHEMOTHERAPY BASED ON THE RESPONSE OF THE PRIMARY TUMOR TO PREOPERATIVE CHEMOTHERAPY.

Rosen G, Caparros B, Huvos AG, Kosloff C, Nirenberg A, Cacavio A, Marcove RC, Lane JM, Mehta B, Urban C
Dept. Pediatrics, Medicine, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 49(6):1221-1230 1982

Since June 1978, 57 patients with primary osteogenic sarcoma of an extremity was treated with high-dose methotrexate (HDMTX) and citrovorum factor rescue (CFR), adriamycin, and the combination of bleomycin, cyclophosphamide and dactinomycin (BCD) given for 4-16 wk prior to definitive surgery. Histologic examination of the resected primary tumor determined the effect of preoperative chemotherapy. All patients having this favorable effect of chemotherapy on the primary tumor were continued on the same regimen postoperatively (regimen B). However, those patients not having a good effect of preoperative chemotherapy on the primary tumor were placed on a regimen containing cisplatinum at the dose of 120 mg/M2 with mannitol diuresis combined with adriamycin in addition to BCD (regimen A). Of 35 patients, 32 (91%) have remained free of recurrent or metastatic disease from 6-34 mo following the start of therapy. Among the 22 remaining patients treated with regimen B postoperatively, there has been only one relapse. Thus, 53 of 57 patients (93%) are continuously with no evidence of recurrent or metastatic disease from 6-35 mo (median, 20 mo) from the start of treatment. This study demonstrates the value of thorough histologic examination in predicting survival in responding patients and in helping identify patients whose disease-free survival rate can be substantially increased if they are given alternative postoperative adjuvant chemotherapy. This individualized chemotherapeutic strategy has yielded the highest disease-free survival rate reported to date for osteogenic sarcoma. (36 Refs)

23. HIGH-DOSE METHOTREXATE IN OSTEOGENIC SARCOMA ADJUVANT CHEMOTHERAPY AND LIMB SALVAGE RESULTS.

Jaffe N, Goorin A, Link M, Watts H, Frei E, Vawter G, Fellows KE, Beardsley GP, Abelson HT
Dept. Pediatrics, M.D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
Cancer Treat Rep; 65(Suppl1):99-106 1981

This communication provides a description and update of the three adjuvant regimens utilized at the Sidney Farber Cancer Institute. The disease-free survivals are: Study I -42% at 4 yr; Study II -58% at 3 yr; and Study III - currently 78%. In the limb salvage experience, among the evaluable patients, 6 of 12 treated with preoperative chemotherapy are disease free (median 32 mo) and 12 of 14 (86%) treated without preoperative chemotherapy are disease free (median 13 mo). (Author abstract) (11 Refs)

CASE REPORTS

24. MESENCHYMOMA OF THE LIVER IN CHILDHOOD: FIVE-YEAR SURVIVAL AFTER COMBINED-MODALITY TREATMENT.

Smithson WA, Telander RL, Carney JA
Mayo Clinic, Rochester, MN, 55905
J Pediatr Surg; 17(1):70-72 1982

A 6-yr-old girl underwent resection of an encapsulated, extensively necrotic tumor of the right hepatic lobe. The tumor was identified as a mesenchymoma. Postoperatively, radiotherapy (2,000 rads in 15 fractions over 20 days) and doxorubicin (DXR: 25 mg/square meter [m2]/day x 3 days/mo for 6 mo; total 450 mg/m2) were given. No evidence of cardiotoxicity existed. Second-look laparotomy was performed 2 mo after the end of DXR therapy; no evidence of local recurrence was found. The patient had no evidence of disease or long-term toxicity 5 yr postoperatively. (13 Refs)

25. PERITONEOSCOPIC DIAGNOSIS OF PRIMARY LEIOMYOSARCOMA OF LIVER.

O'Leary MR, Hill RB, Levine RA
Dept. Pathology, State Univ. New York - Upstate Medical Center, 766 Irving Ave., Syracuse, NY, 13210
Hum Pathol; 13(1):76-78 1982

A primary hepatic leiomyosarcoma was diagnosed by peritoneoscopic biopsy in a 69-yr-old male with a 2 yr history of hepatomegaly, weakness, and abdominal swelling. This is the 13th reported case of such and the first to be diagnosed by peritoneoscopy. The use of peritoneoscopy before laparotomy may be more appropriate in certain patients and may obviate unnecessary surgery. (Author abstract) (13 Refs)

26. HEMANGIOPERICYTOMA: A CLINICOPATHOLOGIC AND ULTRASTRUCTURE STUDY.

Bose B
Box 263, Barrhead, Alberta TOG OEO, Canada
World J Surg; 5(6):863-871 1981

Clinical features, diagnosis, prognosis, treatment, and recurrence of metastasis of hemangiopericytoma (HP) are reviewed, with emphasis on the location of preoperative tumor embolization and recent advances in adjuvant radiotherapy (RT) and chemotherapy (CT). Treatment of six patients for HP over a period of 10 yr is reported. A male had HP at the base of the penis that was excised but which recurred 7 mo later. Further resection with RT was performed, but the patient died with lung metastases that did not respond to RT and CT. HP behind the left knee in a male was excised; confirmation of diagnosis required ultrastructural study. Because amputation was not permitted in the case of malignant HP on the left ankle of a male patient, RT was employed. The tumor progressed and death occurred 28 mo after diagnosis. A highly vascular retroperitoneal HP in a male could not be resected due to bleeding. RT and CT was employed but the patient died after a clinical course of 4.5 yr. HP on a woman's left thigh was resected; the patient remains in good health 32 mo after the operation. An attempt to excise HP from the left gluteal region in a male patient was abandoned due to severe bleeding, controlled by local packs. Electron microscopy was required to establish the diagnosis of HP. The tumor and para-aortic nodes were treated by RT and combination CT. Pulmonary metastases developed and did not respond to further RT and combination CT. The patient died of metastatic disease 9 mo after the first visit. (29 Refs)

27. SYSTEMIC LIPOMATOSIS OF BONE. A CASE REPORT.

Dohler R, Poser HL, Harms D, Wiedemann HR
Orthopadische Universitatsklinik, Klaus-Groth-Platz 4, D-2300 Kiel, W. Germany
J Bone Joint Surg [Br]; 64(1):84-87 1982

We report the case history of a woman aged 32 yr on whom we performed curettage of intra-osseous lipomata of both talar bones. Radiographs showed multiple osteolysis of the extremities with predilection for the hands and feet. The radiological and pathological characteristics of the intra-osseous lipomata and of comparable disturbances of mesenchymal bone structures are discussed. The pathogenesis of the syndrome presented here is likely to be a multicentric hamartoma. (Author abstract) (8 Refs)

28. PRIMARY LIPOSARCOMA OF BONE. CASE REPORT.

Addison AK, Payne SR
Royal Natl. Orthopaedic Hosp., 234 Great Portland St., London W1, England
J Bone Joint Surg [Am]; 64(2):301-304 1982

A rare case of primary liposarcoma of bone in a healthy, 19-yr-old white male is reported. Radiography and computerized axial tomography of the shoulder showed that the soft tissue mass in the right deltoid region arose within the bone. A forequarter amputation was not done because of local tumor spread. Radiation (RT) was used without success. A large metastasis developed in the left lung. Despite additional RT and chemotherapy, the patient died 10 mo after diagnosis. (16 Refs)

29. PRIMARY RHABDOMYOSARCOMA OF THE HEART.

Schmaltz AA, Apitz J
Dept. Pediatric Cardiology, University-Kinderklinik, D-7400 Tubingen, W. Germany
Pediatr Cardiol; 2(1):73-75 1982

Cardiac catheterization was performed in a 3-wk-old boy because of cyanosis, tachypnea, and a soft systolic murmur. Electrocardiography, angiography, and echocardiography indicated a right ventricular mass. The infant died after the mass was removed. The tumor had infiltrated the septum and was identified as rhabdomyosarcoma. Data on 61 primary cardiac rhabdomyosarcomas were obtained from the literature. The patient is the youngest; symptoms were present 2 wk after birth and the tumor was presumably present before birth. (44 Refs)

30. ALVEOLAR SOFT PART SARCOMA OF THE VULVA: REPORT OF FIRST CASE AND REVIEW OF LITERATURE.

Shen JT, D'ablaing G, Morrow CP

Div. Gynecologic Oncology, Dept. Obstetrics and Gynecology, St. Luke's-Roosevelt Hosp. Center (Columbia Univ.), New York, NY, 10019

Gynecol Oncol; 13(1):120-128 1982

A case of primary alveolar soft part sarcoma of the vulva is reported, with review of literature on this tumor arising from other parts of the human body. The patient is a 62-yr-old caucasian secundigravida, with a 4-cm asymptomatic tumor in the right labium minus. Histology shows polygonal cancer cells with granular cytoplasm, forming alveolar patterns. Radical vulvectomy with complete dissection of the right groin and superficial dissection of the left groin lymph nodes was carried out. The surgical margins, and lymph nodes were free of cancer. This tumor is rare, and the histogenesis is uncertain. It occurs most frequently in the limbs of young females, and runs an indolent course but usually results in a lethal outcome. It is recommended that wide local excision and dissection of regional lymph nodes be c arried out. Adjuvant systemic chemotherapy and/or immunotherapy for a finite period of time is logical, but appropriate agents have yet to be defined. Local radiation may be indicated for the tumor not amenable to excision with wide free margin. Lifelong follow-up is mandatory based on a propensity for late recurrence. (Author abstract) (41 Refs)

31. INTRAOSSEOUS LIPOMA.

Dohler R, Harms D

Orthop. Univ.-Klinik, Klaus-Groth-Platz, 2300 Kiel, W. Germany

Z Orthop; 119(1):138-141 1981

Case histories are presented for four patients with intraosseous lipoma. Patient 1, a 46-yr-old woman, had an intraosseous lipoma in the right fibula head. The tumor was found accidentally in the course of a radiologic examination. The patient received no therapy, and a follow-up examination 3 yr after diagnosis revealed unchanged the radiologic findings. The patient had no pain from the tumor. Patient 2, a 3-yr-old boy, had an intraosseous lipoma in the tibia diaphysis. Radiologic evidence of a cyst in that region was initially obtained when the child was 18 mo old. The patient was treated successfully by surgery. Patient 3, a 67-yr-old woman, had an intraosseous lipoma of the proximal epimetaphysis of the humerus. The patient had a 40-yr history of shoulder pain, and had undergone surgery for removal of a benign tumor 36 yr before presentation. Patient 4, a 40-yr-old man, had an intraosseous lipoma in the calcaneus. The tumor was found accidentally in the course of a radiologic examination. Intraosseous lipomas are discussed with regard to incidence, location, age, sex distribution of patients, clinical symptoms, patient history, radiologic features, pathology, tendency to metastasize, malignant potential, and treatment. (19 Refs) (In GER)

32. PROSTHETIC REPLACEMENT OF ENTIRE LEFT HEMIDIAPHRAGM IN MALIGNANT FIBROUS HISTIOCYTOMA OF THE DIAPHRAGM.

Tanaka F, Sawada K, Ishida I, Seki Y, Ohmori Y, Kuwahara T, Maruyama K, Sagara T

Div. Thoracic Disease, Chiba Cancer Center Hosp., 666-2 Nitona-cho, Chiba 280, Japan

J Thorac Cardiovasc Surg; 83(2):278-284 1982

A case of primary malignant fibrous histiocytoma of the diaphragm which, to our knowledge, is the first record in the world literature, is presented. It occupied almost the entire left hemidiaphragm and was surgically removed with the left lower pulmonary lobe, stomach, colon, and spleen. The entire left hemidiaphragm then was replaced with Marlex mesh. Prosthetic replacement of the entire hemidiaphragm, which has not been previously reported, was successfully performed with preservation of pulmonary function on the affected side. The patient died of brain metastases of malignant fibrous histiocytoma more than 4 mo postoperatively. Diagnosis of diaphragmatic tumors and a technique which involves the use of a prosthesis are discussed. (Author abstract) (17 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

33. SYMPOSIUM ON TUMOURS IN THE TROPICS: HISTORICAL INTRODUCTION, BURKITT'S LYMPHOMA, NASOPHARYNGEAL CARCINOMA AND KAPOSI'S SARCOMA.

Hutt MS

Geographical Pathology Unit, Dept. Histopathology, St. Thomas' Hosp. Medical Sch., London SE1 7EH, England

Trans R Soc Trop Med Hyg; 75(6):761-765 1981

The geographic distribution of Burkitt's lymphoma (BL) in Africa and New Guinea can be explained by its association with endemic malaria. Heavy Plasmodium falciparum infection in young children suppresses the immune system and enhances lymphocyte proliferation, which in turn may enhance susceptibility to the oncogenic effects of the Epstein-Barr virus (EBV). The age at the time of EBV infection and genetically determined immunologic deficits may also be involved. The sporadic BL of Western nations is usually not associated with EBV. EBV is also implicated in nasopharyngeal carcinoma (NPC). Most of the high-NPC areas are in the tropics of Africa and Asia. Genetic factors seem to be involved. In Malaysia, Singapore, and Hong Kong, the NPC frequency is high in Malays and ethnic Chinese, but low in Indians. Chinese patients with NPC have a previously unidentified second-locus HLA antigen (Sin-2). The NPC frequency is also high among Eskimos, Aleuts, and Alaskan Indians. In this population, the BW40 component of the HLA system is more frequent in NPC patients than in other groups. Kaposi's sarcoma (KS) is rare everywhere in the world except among the black populations of tropical Africa. Its geographic distribution does not seem to be related to ethnic origin, suggesting that environmental factors are the major etiologic determinant. Endogenous, perhaps hormonal factors might account for the male preponderance among KS patients. European and American cases of KS have been reported in immunosuppressed patients. An association of KS with elevated cytomegalovirus antibody titers has been reported in Western countries but not in Africa. (78 Refs)

34. DISSEMINATED KAPOSI'S SARCOMA SYNDROME IN YOUNG HOMOSEXUAL MEN.

Friedman-Kien AE
New York, NY
J Am Acad Dermatol; 5(4):468-471 1981

Kaposi's sarcoma (KS) developed as an endemic cluster in 41 sexually active homosexual men (26-51 yr old). More than 50% of the patients presented with one or more totally asymptomatic, blue-purple, macules, plaques, papules, or elevated nodules of varying size. Diagnosis, treatment, complications of KS in the patients are described. Immunological factors involved in KS are discussed. (9 Refs)

35. AMYL NITRITE MAY ALTER T LYMPHOCYTES IN HOMOSEXUAL MEN.

Goedert JJ, Wallen WC, Mann DL, Strong DM, Neuland CY, Greene MH, Murray C, Fraumeni JF, Blattner WA
Environmental Epidemiology Branch, NCI, Landow Building - Room 4C18, Bethesda, M D, 20205
Lancet; 1(8269):412-416 1982

To evaluate the recent outbreak of Kaposi's sarcoma (KS) and opportunistic infections in homosexual men, clinical, virological, and immunological data on 2 homosexual men with KS and on 15 healthy homosexual volunteers were collected. Both KS patients had regularly used amyl nitrite or butyl nitrite (AN); they had low helper/suppressor (H/S) T lymphocyte ratios before chemotherapy and high titers of antibody against cytomegalovirus (CMV). Eight of the 15 volunteers were regular AN users; 7 of the 8 had low H/S ratios due to larger than normal numbers of OKT8-positive suppressor cells and smaller numbers of OKT4-positive helper cells. In all eight AN users the fluorescence profile obtained with monoclonal antibody 9.6 (which detects the sheep E-rosette receptor) was bimodal, indicating a subpopulation of T cells with increased receptor density. A similar pattern was observed when OKT8, the antibody which detects cytotoxic suppressor cells, was used. Two of the seven men who did not use AN had abnormal fluorescence with reagent 9.6, and one of these also had a low H/S ratio. CMV-antibody titers were persistently high in 14 of the 15 healthy men, but the titers were not related to An use or T-cell abnormalities. The data suggest that nitrites may be immunosuppressive in the setting of repeated viral antigenic stimulation and may contribute to the high frequency of KS and opportunistic infections in homosexual men. (Author abstract) (35 Refs)

36. EPIDEMIOLOGY OF HEPATIC ANGIOSARCOMA IN THE UNITED STATES: 1964-1974.

Falk H, Herbert J, Crowley S, Ishak KG, Thomas LB, Popper H, Caldwell GG
Chronic Diseases Div., Center Environmental Health, Centers Disease, Control, Public Health Service U. S. Dept. Health and Human Services, Atlanta, GA, 30333
Environ Health Perspect; 41:107-113 1981

The occurrence of hepatic angiosarcoma (HAS) in the United States was studied for the period 1964-1974. Death certificates were reviewed in 22,432 cases of death due to liver tumors. Based on examination of medical records and pathological specimens, 168 cases of HAS were confirmed. Of cases identified as HAS on death certificates, only 42% were confirmed as HAS by other evidence; 50% were confirmed as not HAS. Only 23% of confirmed cases of HAS would have been identified by a search of death certificates alone. Inadequacies in epidemiological studies are indicated. HAS occurred predominantly in men (male:female ratio 3:1) and more frequently in the younger age groups. The mean age was 50.1 yr for women and 57.9 yr for men. Of 127 men with HAS, 12 had been exposed to vinyl chloride (VC), 15 to Thorotrast (TT), 4 to inorganic arsenic (As), and 3 to androgenic-anabolic steroids (AAS); 93 cases were classified as idiopathic. Of 41 women with HAS, 5 had been exposed to TT, 2 to As, and 1 to AAS; 33 cases were classified as idiopathic. A relationship between HAS and VC, TT, or AAS was more common in the latter part of the study period, probably due to recent introduction of VC and AAS and a long latency period for TT. The mortality rate for HAS was 0.75 cases/10(7) population/yr. The mortality rate was apparently higher in industrialized areas of the Northeast and Midwest and lower in farming states and the South; differences in rates for different areas may have been due to reporting methods rather than to actual differences in occurrence. Four agents have been identified as probable causative factors in HAS, but 75% of cases are of uncertain etiology. (28 Refs)

37. ANGIOSARCOMA OF THE LIVER: A SIGNAL LESION OF VINYL CHLORIDE EXPOSURE.

Vianna NJ, Brady J, Harper P
Bureau Environmental Epidemiology, New York State Dept. Health, Tower Building, Empire State Health Plaza, Albany, NY, 12237
Environ Health Perspect; 41:207-210 1981

The association between exposure to vinyl chloride (VCM) and subsequent occurrence of angiosarcoma of the liver (ASL) is reviewed. Although ASL is a rare tumor, some evidence suggests that incidence of ASL is increasing. ASL occurs more frequently among workers occupationally exposed to VCM than among the general population. ASL may also be related to low-level, nonoccupational exposure to VCM. Other disorders possibly associated with exposure to VCM include cancers of the digestive, respiratory, neurologic, and lymphatic systems. (39 Refs)

SELECTED PRE-CLINICAL STUDIES

38. EFFECTS OF AGING ON THE INDUCTION OF ANGIOSARCOMA.

Groth DH, Coate WB, Ulland BM, Hornung RW
Div. Biomedical and Behavioral Science, Natl. Inst. Occupational Safety and Health
Environ Health Perspect; 41:53-57 1981

The effects of aging on chemical induction of angiosarcoma were studied in adult Sprague-Dawley albino rats. In each of four age groups (6, 18, 32, and 52 wk old at the start of exposure), 110-128 male rats and an equal number of female rats were exposed to vinyl chloride (VC: 948 ppm, 7 hr/day, 5 days/wk for a mean duration of 24.5 wk). Equal numbers of controls were kept under identical conditions but were not exposed to VC. Rats exposed to VC did not show any significant differences in mean hematological or clinical chemistry measurements at interim sacrifice times when compared with controls. Angiosarcomas were found in 28/370 exposed males and 50/387 exposed females; among controls only one sc angiosarcoma was found. Angiosarcomas occurred more frequently with increasing age at the start of exposure. Among male rats killed at unscheduled times, the occurrence rates were 0% for 6-wk-, 0% for 17-wk-, 6.7% for 32-wk-, and 24% for 52-wk-old rats. The corresponding rates for female rats were 5.3%, 15%, 47%, and 20%. Times between start of exposure and first appearance of tumors were shorter in older rats than in younger rats. Most of the angiosarcomas in exposed rat were highly anaplastic primary tumors of the liver with pulmonary metastases. Results indicate that older rats and female rats are more susceptible to induction of angiosarcomas by VC than younger rats and female rats, respectively. (3 Refs)

39. INHIBITORY EFFECT OF L-HOMOARGININE ON MURINE OSTEOSARCOMA CELL PROLIFERATION.

Kikuchi Y, Takagi M, Parmley RT, Ghanta VK, Hiramoto RN
(c/o Hiramoto) Dept. Microbiology, Univ. Alabama Birmingham, Birmingham, AL
Cancer Res; 42(3):1072-1077 1982

An organ-specific alkaline phosphatase inhibitor, L-homoarginine, at 44.5 mM concentration inhibited [3H]thymidine uptake by C3H/He mouse osteosarcoma (OS) cells, while L-arginine, L-phenylalanine, and glycine had little effect on the uptake. This inhibitory effect by L-homoarginine persisted even after the cells were washed free of the amino acid with fresh media. L-Homoarginine did not affect [3H]thymidine uptake by mouse myeloma MOPC 104E cells. In long-term culture, 22.3 mM L-homoarginine inhibited proliferation of OS cells. L-Arginine at the same concentration inhibited the proliferation to a lesser extent. On the other hand, L-phenylalanine and glycine did not affect in vitro proliferation of OS cells. When the same number of viable OS cells was inoculated sc after culturing for 24 hr with 44.5 mM L-homoarginine or L-arginine, the tumor growth in mice given injections of L-homoarginine (but not L-arginine) -treated cells was delayed markedly. Electron microscopic studies indicated that the inhibiting effect on OS cell proliferation was associated with a marked increase in lysosomal granules and a decrease in virus-like structures. Similarly, biochemical assay for acid phosphatase of cell homogenates demonstrated a two-fold increase of activity in L-homoarginine-treated cells when compared to controls and L-arginine-treated cells. Thus, L-homoarginine inhibits proliferation and alkaline phosphatase activity of mouse OS cells and appears to increase acid phosphatase activity and synthesis of lysosomal granules. (Author abstract) (28 Refs)

REVIEWS

40. NONASBESTOS FIBROUS MINERALS.

Lockey JE
Building 512, RMCOEH, Univ. Utah Medical Center, Salt Lake City, UT, 84112
Clin Chest Med; 2(2):203-218 1981

Human exposure to nonasbestos mineral fibers is reviewed. Talc, man-made mineral fibers (glass fibers; slag wool, rock wool, and fibrous glass wool; ceramic fibers), vermiculite, zeolites, Fuller's earth, and wollastonite are each discussed. While many of the health effects of these fibers have been attributed to contamination with asbestiform minerals, fibrous zeolites may cause mesothelioma in humans and various fibrous minerals can cause sarcomas in animals. (123 Refs)

41. MESENCHYMAL TUMOURS OF THE STOMACH: REPORT OF CASES, REVIEW OF LITERATURE AND ANALYSIS OF LEIOMYOSARCOMAS.

Chatterjee D, Powell A
Royal Infirmary, Edinburgh, Scotland
Br J Clin Pract; 36(1):26-33 1982

Six cases of gastric mesenchymal tumors are presented: one malignant schwannoma, one leiomyoma, and four leiomyosarcomas. A review of the literature is presented, mainly dealing with gastric leiomyosarcoma, because of the clinical and surgical importance of this tumor. A 78-yr-old male presented with epigastric discomfort, and dyspepsia, and a mass in the upper left abdomen. A gastric leiomyosarcoma with attached organs was excised along with local resection of the gastric wall. At laparoscopy in a 70-yr-old male, a polyp arising from the gastric wall was excised and diagnosed as a leiomyoma. A 53-yr-old housewife with complaints of hematemesis and melena underwent excision of a leiomyosarcoma of the gastric wall. A 72-yr-old male with a left upper abdominal mass, loss of wt, an indigestion for 7 yr had a malignant schwannoma which was treated by subtotal gastrectomy. The patient later developed liver metastases and died 1.5 yr postoperatively. A 71-yr-old housewife with complaints of loss of wt and swelling of the left side of the abdomen was treated for a leiomyosarcoma by total gastrectomy with excision of the distal pancreas, spleen, transverse colon and mesocolon. A 42-yr-old housewife had a large poorly differentiated leiomyosarcoma originating from the posterior wall of the corpus of the stomach excised. Microscopy alone cannot distinguish between a leiomyoma and a leiomyosarcoma. Surgical excision is the best and only form of effective cancer therapy, and can yield a 5-yr-survival rate of up to 60%. (32 Refs)

42. SOFT TISSUE SARCOMAS: AN UPDATE.

Karakousis CP
Dept. Surgical Oncology, New York State Dept. Health, Roswell Park Memorial Inst., Buffalo, NY
Curr Surg; 39(1):5-11 1982

Soft tissue sarcoma (a malignant neoplasm derived from primitive mesenchyme) is reviewed, and experiences with patients are described. Disease incidence, treatment of primary tumor and survival, limb salvage techniques (chemotherapy and radiotherapy), adjuvant therapy, and treatment of metastatic disease are discussed. Soft tissue sarcomas, with the exception of those draining into the portal venous system, metastasize primarily to the lungs. The most effective chemotherapy protocol for metastatic disease is a combination of cyclophosphamide, vincristine, adriamycin, and 5-(3,3-dimethyl-1-triazeno)imidazole-4-carboxamide. (46 Refs)

☆ U.S. GOVERNMENT PRINTING OFFICE : 1982—361-847/122

AUTHOR INDEX WITH CITATION NUMBERS

Aakhus T, 6
Abelson HT, 15
Abelson HT, 23
Addison AK, 28
Aisner J, 8
Allen P, 9
Angervall L, 4
Antman KH, 21
Antman KH, 8
Apitz J, 29
Ayala AG, 19
Balthazar EJ, 7
Barkley HT, 19
Beardsley GP, 23
Blattner WA, 35
Bose B, 26
Brady J, 37
Brenner DE, 8
Burkhardt KR, 12
Burr LH, 9
Cacavio A, 22
Caldwell GG, 36
Caparros B, 22
Carney JA, 24
Chaffey JT, 21
Chatterjee D, 41
Coate WB, 38
Cochrane JW, 12
Cooper KL, 11
Cortes EP, 14
Costa J, 13
Crowley S, 36
Czownicki Z, 17
D'ablaing G, 30
Dahlin DC, 11
Davis KR, 18
DeSchryver-Kecs, 5
Dehner LP, 3
Dohler R, 27
Dohler R, 31
Dorfman HD, 10
Engleman W, 5
Enjoji M, 2
Erlandson RA, 1
Falk H, 36
Fassina AS, 4
Fellows KE, 23
Fraumeni JF, 35
Frei E, 15
Frei E, 23
Friedman-Kien A, 34
Gerein AN, 9
Ghanta VK, 39
Glatstein E, 13
Glatstein E, 20
Godwin TA, 1
Goedert JJ, 35
Goitein M, 18
Goorin A, 23
Goorin AM, 15
Gordon W, 21
Grant D, 8
Greenberger JS, 21
Greene MH, 35
Groth DH, 38
Harms D, 27
Harms D, 31
Harper P, 37
Hashimoto H, 2
Herbert J, 36
Hill RB, 25
Hiramoto RN, 39
Holland JF, 14
Hornung RW, 38
Hussey DH, 19
Hutt MS, 33
Huvos AG, 22
Ishak KG, 36
Ishida I, 32
Jaffe N, 23
Jamieson WR, 9
Karakousis CP, 42
Kikuchi Y, 39
Kindblom LG, 4
Koehler A, 18
Kolbenstvedt A, 6
Kolmannskog F, 6
Kosloff C, 22
Kraus FT, 5
Kuwahara T, 32
Lacy PE, 5
Lane JM, 22
Larrieu AJ, 9
Levine RA, 25
Lindberg RD, 19
Linggood R, 18
Link M, 23
Lockey JE, 40
Madamba MR, 7
Mann DL, 35
Marcove RC, 22
Martini N, 1
Maruyama K, 32
McCarthy EF, 10
McNaney D, 19
Mehta B, 22
Miyagishima RT, 9
Morrow CP, 30
Munro AI, 9
Munzenrider J, 18
Murray C, 35
Nakstad PH, 6
Neuland CY, 35
Nirenberg A, 22
O'Leary MR, 25
Ohmori Y, 32
Ojemann RG, 18
Parmley RT, 39
Payne SR, 28
Popper H, 36
Poser HL, 27
Powell A, 41
Pratt CB, 16
Raghavendra BN, 7
Rosen G, 22
Rosenberg SA, 13
Rosenberg SA, 20
Sagara T, 32
Sawada K, 32
Schmaltz AA, 29
Seipp C, 13
Seki Y, 32
Shen JT, 30
Sim FH, 11
Smithson WA, 24
Snover DC, 3
Strong DM, 35
Subramanyam BR, 7
Suit HD, 18
Sumner HW, 3
Susin M, 1
Takagi M, 39
Tanaka F, 32
Telander RL, 24
Tepper J, 13
Tepper J, 20
Thomas LB, 36
Tyers GF, 9
Ulland BM, 38
Unni KK, 11
Urban C, 22
Utracka B, 17
Vawter G, 23
Verhey L, 18
Vianna NJ, 37
Wallen WC, 35
Watts H, 23
Webster I, 12
Weichselbaum RR, 21
Wesley R, 13
Whitley NO, 8
Wiedemann HR, 27
Wold LE, 11
Woodruff JM, 1
Young R, 13

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS
Penalty for Private Use, $300

PRINTED MATTER

U.S.MAIL

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT 12/82/08

NCI/ICRDB/CT12 82/08

PB82-938708

ICRDB CANCERGRAM

INTERNATIONAL CANCER RESEARCH DATA BANK

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/08

AUGUST, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY

SEP 30 1982

U. S. GOVT. PUBS.
DEPOSITORY 376

VISIT THE ICRDB EXHIBIT AT THE
INTERNATIONAL CANCER CONGRESS
IN SEATTLE, SEPTEMBER 8-15: MEET
THE ICRDB STAFF, FIND OUT WHAT'S
NEW, AND GET A FREE CANCERLINE
SEARCH ON THE SPOT.

In this issue:

- DIAGNOSIS .... 1 - 13
- CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY 14
- CHEMOTHERAPY .... 15 - 17
- SURGERY .... 18 - 19
- MULTIMODAL THERAPY .... 20 - 23
- CASE REPORTS .... 24 - 26
- SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY .... 27 - 32
- REVIEWS .... 33 - 35

DIAGNOSIS

1. TELANGIECTATIC OSTEOGENIC SARCOMA: A CLINICOPATHOLOGIC STUDY OF 124 PATIENTS.

Huvos AG, Rosen G, Bretsky SS, Butler A
Memorial Hosp. for Cancer and Allied Diseases, Memorial Sloan-Kettering Cancer Center, New York, NY, 10021
Cancer; 49(8):1679-1689 1982

One hundred-twenty-four patients with this rare and special variant of osteogenic sarcoma were treated at Memorial Sloan-Kettering Cancer Center from 1921 through 1979, representing 11% of all of osteogenic sarcomas. The lesions were predominantly lytic, destructive tumors with only minimal sclerosis of roentgenograms and soft as well as cystic on gross examination. Histologically, aneurysmally dilated spaces lined or traversed by sarcoma cells producing osteoid were noted. The differential diagnosis both radiographically and histologically included several benign lesions like aneurysmal bone cyst and

HE 20. 3173/2:

giant cell tumor, among many others. It was found that telangiectatic osteogenic sarcoma is relatively frequent in the femoral diaphysis and in the distal end of the femur. Twenty-nine percent of the patients present with pathologic fracture, or this develops later. Age and sex distribution, or clinical signs or symptoms were those of ordinary osteogenic sarcomas. No differences in survival rates were found in lesions that were purely lytic or those with minimal sclerosis. Similarly, no differences in survival were noted when comparing patients with telangiectatic or ordinary osteogenic sarcoma. As a matter of fact, definite increase in survival was found in patients treated since 1975 with preoperative multidrug chemotherapy employing high-dose methotrexate, Adriamycin, and the combination of bleomycin, cyclophosphamide, and dactinomycin. (Author abstract) (39 Refs)

2. CHONDROSARCOMA ARISING IN OSTEOCHONDROMA.

Garrison RC, Unni KK, McLeod RA, Pritchard DJ, Dahlin DC
Section Publications, Mayo Clinic, Rochester, MN, 55905
Cancer; 49(9):1890-1897 1982

Secondary chondrosarcomas are rare. An analysis of 75 cases of chondrosarcomas secondary to osteochondroma (42 lesions were from the Mayo Clinic files and 33 were from consultation files) revealed that 40 of the patients had single exostosis and 35 had multiple lesions. More males than females were affected, and most of the patients were age 20 to 40 yr. The tumors involved various bones. Malignant change was manifested radiologically by fuzzy margins of the cartilage cap and by the presence of lucent zones within the lesion. Grossly, the surface of the thickened cartilage cap was irregular. Microscopically, most of the tumors were well-differentiated (Grade 1). Treatment was surgical. Simple excision of the tumor resulted in a large recurrence rate. Resection and amputation were gradually curative. Only 12 of the patients have died of their tumor. Most patients died of local recurrence. Only 2 of the 75 patients had definite evidence of metastatic disease. (Author abstract) (19 Refs)

3. MONOPHASIC SYNOVIAL SARCOMA, EPITHELIOID SARCOMA AND CHORDOID SARCOMA: ULTRASTRUCTURAL EVIDENCE FOR A COMMON HISTOGENESIS, DESPITE LIGHT MICROSCOPIC DIVERSITY.

Cooney TP, Hwang WS, Robertson DI, Hoogstraten J
(c/o Hwang) Dept. Pathology, Foothills Hosp., 1403 29th Ave. NW, Calgary, Alberta T2N 2T9, Canada
Histopathology; 6(2):163-190 1982

Results of ultrastructural examination of six rare sarcomas (4 monophasic spindle cell tumors, 1 epithelioid sarcoma, and 1 chordoid sarcoma) in six patients (3 males, 3 females; 4-74 yr old) are presented. Light microscopic examination revealed widely divergent appearances. Electron microscopy revealed several distinctive common features in these cases, supporting the relationship to synovial tissue. In five cases desmosomes or zonula adherentes were present; in one monophasic sarcoma they were poorly formed. Both clear cells and fibroblast-like cells were observed in all cases. Pseudoacini, microvilli, filopodia, and amorphous ground substance and filaments were observed in all cases. Basal lamina was present in five cases but absent in the monophasic synovial sarcoma that had poorly formed desmosomes and zonula adherentes. Cytoplasmic filaments were 40-60 A in size in five cases, and 80-100 A in the chordoid sarcoma case. Review of the literature supports a common histogenesis of these tumors. The synovial origin of the tumors is discussed. Differential diagnosis of chordoid sarcoma, epithelioid sarcoma, and monophasic synovial sarcoma is reviewed. (85 Refs)

4. ULTRASTRUCTURAL AND IMMUNOCHEMICAL ANALYSIS OF EWING'S TUMOR.

Besuschio SC, Hojman D, Avagnina A, Kremenchutzky G, De Potente GL
Departamento de Histopatologia , Instituto de Investigaciones, Hematologicas Academia Nacional de Medicina, Buenos Aires, Argentina
Medicina (B Aires); 41(Suppl):60-64 1981

Immunochemical studies were performed on materials from eight patients with Ewing's tumor using the method of peroxidase-antiperoxidase. Staining produced negative results for all immunoglobulins studied (IgG, IgA, IgM), light and heavy chain proteins, and lysozyme. Only in one patient light chain proteins were stained. Lysozymes in polymorphonuclear leukocytes were stained in the other. Ultrastructural analysis was performed in three of the patients. Predominant cells were transforming themselves into cells with smaller diameter and higher electronic density so called 'secondary cells'. Occasional macrophage and fibroblast cells observed do not seem to derive from the 'predominant cells'. Fibroblast cells produced abundant quantity of collagen. Although 'secondary cells' showed viability, they failed to grow in tissue culture. Viral cells were not observed. These results are in agreement with with Oberling's hypothesis of poorly differentiated histiocytic-reticular nature of cells capable of undergoing transformation into cells more mature. (13 Refs) (In SPA)

5. DISCRIMINATION BETWEEN PRIMARY PLEURAL AND PRIMARY PERITONEAL MESOTHELIOMAS BY MORPHOMETRY AND ANALYSIS OF THE VACUOLIZATION PATTERN OF THE EXFOLIATED MESOTHELIAL CELLS.

Boon ME, Kwee HS, Alons CL, Morawetz F, Veldhuizen RW
Dept. Cytology, Sichting Samenwerking Delftse Ziekenhuizen, Reynier de Graeweg 7, NL-2625 GA Delft, The Netherlands
Acta Cytol (Baltimore); 26(2):103-114 1982

Cells exfoliated from primary pleural mesotheliomas differ significantly from those from primary peritoneal tumors. In a quantitative study, it was shown that the pleural cells have larger nuclei, a more pronounced anisokaryosis and a higher nuclear-cytoplasmic ratio and, therefore, appear more malignant than the peritoneal cells, which have abundant cytoplasm and small nuclei. The differences in quantitative parameters were due to a more extensive vacuolization and consequent cytoplasmic distension, combined with nuclear compression in the case of peritoneal mesotheliomas. The morphometric parameters and the vacuolization patterns of cell populations in cases with both pleural and peritoneal involvement correlated with the data of the primary tumor regardless of the fluid in which the cells were found. This finding indicates the transcelomic metastatic properties of malignant mesothelioma. (Author abstract) (29 Refs)

6. ELECTRON MICROSCOPY OF FINE NEEDLE ASPIRATION BIOPSY FROM SOFT TISSUE TUMORS.

Nordgren H, Akerman M
Dept. Pathology, Central Hosp., S-631 88 Eskilstuna, Sweden
Acta Cytol (Baltimore); 26(2):179-188 1982

The value of electron microscopy as an adjunct to fine needle aspiration cytology in the preoperative diagnosis of soft tissue tumors was studied in 22 cases. In 19 of these, the aspirated material obtained was adequate for electron microscopy analysis. The aspiration procedure did not damage the cells, and the aspirates were well suited to electron microscopic examination. In many cases this examination enhanced the precision of diagnosis and subclassification. This was the case in two intramuscular myxomas diagnosed as myxoid liposarcomas with light microscopy and in two sarcoma-like squamous cell carcinomas diagnosed as polymorphous sarcomas in the ordinary smears. (Author abstract) (15 Refs)

7. DIAGNOSIS AND PROGNOSIS OF DERMATOFIBROSARCOMA PROTUBERANS.

Liu F
Dept. Pathology, First Hosp., Third Military Medical Coll., Chongquing, People's Republic of China
Zhonghua Pifuke Zazhi; 14(2):92-94 1981

Dermatofibrosarcoma protuberans is a rare tumor that is often misdiagnosed. In order to provide more information on its diagnosis and prognosis, clinical and pathological findings are described for 20 cases (12 males, 8 females; 12-56 yr old). Sites of tumor included the chest wall (7 cases), abdominal wall (5 cases), upper limbs (2 cases), lower limbs (2 cases), back (2 cases), neck (1 case), and perineum (1 case). Local tumor resection was performed in all patients. Tumor recurrence occurred in 12 of the patients; it recurred 6 x in 1 patient, 5 x in 1 patient, 3 x in 3 patients, 2 x in 4 patients and 1 x in 3 patients. Recurrence interval was 2 mo to 3 yr. All except one case in this series had been misdiagnosed before surgery as one of the following: fibroma, neurofibroma, fibrosarcoma, neurofibrosarcoma and cicatricial hyperplasia. Based on findings in this study, major clinical characteristics of dermatofibrosarcoma protuberans are: (1) occurring mostly in adults with a slow clinical course, (2) locating mostly on the trunk, (3) tumors nodal and protruding above the skin, (4) skin surface often dull red or congested, (5) frequent recurrence after surgery but metastasis rare. It was concluded that although above characteristics can help in preliminary diagnosis, final correct diagnosis requires pathological examination. (7 Refs) (In CHI)

8. ANGIOSARCOMA OF THE BREAST: MAMMOGRAPHIC AND TELETHERMOGRAPHIC EVALUATION IN FOUR CASES.

Bergonzi S, Viganotti G, Guzzon A, Gardani G, Coopmans de Yoldi G
Istituto Tumori, Via Venezian, 1, 20133 Milano, Italy
Radiol Med (Torino); 68(1):45-50 1982

Four patients (20-40 yr old) with histologically confirmed mammary angiosarcoma had mammography (MA) and two MA plus telethermography (TTG). Location of the tumors was on the right side in all of the patients. Familial history of any cancer and especially mammary cancer was not found. The tumors appeared and grew rather rapidly (9-15 cm diameter). One patient had a small tumor removed elsewhere 13 mo before, and was misdiagnosed as benign clinically and histologically. Another patient had biopsy of the tumor 2 yr before that was diagnosed as cystic. Only one patient felt pain. Clinical diagnosis of the tumors was angiosarcoma in one of the patients, phyllode tumor in two, and giant fibroadenoma in one. MA indicated parenchymal thickening and intense homogenous opacity. Neither macro nor micro calcifications were observed. MA diagnosis was phyllode tumors or giant fibroadenoma in the three patients and malignant tumor only in one. TTG indicated malignant process in both tumors. After surgery, lymph nodes did not show metastases. All four patients had mastectomy, followed by radiotherapy or chemotherapy that did not influence the rapid evolution of the disease. Av survival was 13 mo. It was suggested that MA diagnosis of benign tumors, to be followed by TTG examination, and if the results are positive by histologic examination. (15 Refs) (In ITA)

9. RADIOGRAPHIC FEATURES OF OSSEOUS METASTASES OF SOFT-TISSUE SARCOMAS.

Wong WS, Kaiser LR, Gold RH, Fon GT
Dept. Radiological Sciences, Univ. California Los Angeles Center for Health Sciences, Los Angeles, CA, 90024
Radiology; 143(1):71-74 1982

In contrast to most other neoplastic processes of bone, in our study osseous metastases from soft-tissue sarcomas (STS) were more reliably detected by radiography than by scintigraphy. The radiographic manifestations of 65 skeletal metastases in 23 patients with STS were reviewed. Although most metastases (88%) were osteolytic, eight (12%) lesions were osteoblastic. The destructive patterns were geographic in 29%, moth-eaten in 55%, and permeative in 12% of the lesions. The axial skeleton was most commonly involved. In the long bones the diaphyses were the predominant sites of involvement. The bony cortex was frequently breached, with resultant soft-tissue swelling and pathologic fractures. Noteworthy features included subarticular location, involvement of the sacroiliac joint, and an expansile appearance. (Author abstract) (19 Refs)

10. THERAPY AND PROGNOSIS OF GASTRIC SARCOMA.

von Bulow M, Dzihniszewski G
Chirurgische Universitatsklinik, Langenbeckstrasse 1, D-6500 Mainz, W. Germany
Langenbecks Arch Chir; 356(2):129-140 1982

The treatment of 20 patients with gastric sarcomas and of 31 patients with gastric lymphomas is described. Undifferentiated sarcomas of the lowest level of tissue maturation (spindle-cell sarcomas) were diagnosed in 10/20 patients, differentiated sarcomas in 10 (liposarcoma in 1, neurogenic sarcoma in 5 and leiomyosarcoma in 4). Billroth's II resection was performed in five patients in Stage I and in three patients in Stage II, gastrectomy in five patients Stage II, wedge resection in one patient in Stage I, and exploratory laparotomy in six patients in Stage IV. The patients with sarcomas of low level of maturity were usually subjected to postoperative cytostatic therapy, and three patients were irradiated after surgery. Three patients in Stage Ib have been alive for more than 8 yr, while the 5-yr survival rate was lower than 50% in Stage Ic. The 5-yr survival rate was 0% in Stages II and III. Twenty-three of the 31 patients with malignant lymphomas were followed up. Seven of the 23 patients in Stages I and II were subjected to tumor resection with radiotherapy and chemotherapy; the mean survival time was 58 mo. Five other patients, subjected to tumor resection only, had an av survival time of 18 mo. the combination of chemotherapy and radiotherapy was also found to be definitely advantageous in the patients in Stages III and IV, in whom the diagnosis of lymphoma was usually established only postoperatively. (19 Refs) (In GER)

11. IMMUNOHISTOCHEMICAL MARKING OF MALIGNANT FIBROUS HISTIOCYTOMA AND MALIGNANT HISTIOCYTOSIS.

Meister P, Nathrath W

Pathologisches Institut, Universitat Munchen, Thalkirchner Strasse, 8000 Munchen 2, W. Germany

Haematol Blood Transfus; 27:217-219 1981

Of 70 tumors classified as malignant fibrous histiocytoma (MFH), 35 were studied by immunohistochemical techniques. Twenty-six tumors were positive for alpha1-antichymotrypsin (aACT), graded + (few cells marked) in 11 and ++ (numerous cells marked) in 15 cases. Lysozyme (LY) reaction was positive in 16 cases, + in 12 and ++ in 4. Of the 13 previously diagnosed malignant histiocytosis (MH) cases, 12 showed positive reactions with both enzymes; approx half the cases were + or ++ with either method. The only completely negative lesion consisted of immature (monocytic) elements. The marking in patients with MFH was more often positive with aACT than with Ly. With MH, both markers were simultaneously present in most cases. Wrong negative findings may be due to immaturity of the cells or the absence of loss of histiocytic differentiation. Wrong positive findings may be due to scattered reactive macrophages intermingled with neoplastic cells or with degenerating cells in mesenchymal tumor cells of various histiogenesis. Immunohistochemical marking with aACT or LY on formalin-fixed, paraffin-embedded material appears to be useful for diagnosis of histiocytic tumors when evaluated in context with other characteristic histological findings. (20 Refs)

12. FIBROUS HISTIOCYTOMA OF THE ORBIT. A CLINICOPATHOLOGIC STUDY OF 150 CASES.

Font RL, Hidayat AA

(c/o Hidayat) Dept. Ophthalmic Pathology, Armed Forces Inst. Pathology, Washington, DC, 20306

Hum Pathol; 13(3):199-209 1982

This is a clinicopathologic study of 150 cases of fibrous histiocytoma of the orbit. The tumors occurred in adults (median age, 43 yr). The upper and nasal portions of the orbit were the most common sites of involvement. The most common signs and symptoms were proptosis (60%), mass (46%), and decreased vision (25%). Based on the histopathologic features, the tumors were classified in three groups: benign (94 cases), locally aggressive (39 cases), and malignant (17 cases). The biologic behavior correlated well with the duration of symptoms, the size and margins of the mass, and the histologic classification. The rate of recurrence was 31% for the benign tumors, 57% for the locally aggressive tumors, and 64% for the malignant tumors. Follow-up data were obtained for 123 patients, with a mean duration of 7 yr. The 10-yr survival of patients with benign, locally aggressive, and malignant fibrous histiocytoma was 100%, 92%, and 23%, respectively. Nine patients died as a result of the tumor, six from local invasion of adjacent structures and three from metastatic disease. Fibrous histiocytoma is the most common primary mesenchymal orbital tumor of adults. The origin of the neoplasm is probably a primitive mesenchymal cell. Complete surgical excision appears to be the treatment of choice. (Author abstract) (23 Refs)

13. HEMANGIOPERICYTOMA OF THE ORBIT: A CLINICOPATHOLOGIC STUDY OF 30 CASES.

Croxatto JO, Font RL

(c/o Font) Cullen Eye Inst., Baylor Coll. Medicine, 1200 Moursund St., Houston, TX, 77030

Hum Pathol; 13(3):210-218 1982

The clinical and pathologic features of 30 orbital hemangiopericytomas were reviewed. An effort was made to determine the clinicopathologic characteristics that may correlate with the biologic behavior. Histopathologic criteria evaluated included degree of cellularity, nuclear atypia, mitotic activity, tumor size, and the presence of hemorrhage and necrosis. Histopathologically, 16 tumors were classified as benign, 5 as borderline, and 9 as malignant. Follow-up information was obtained in 27 cases (mean duration of follow-up period was 5 1/2 yr). Eight tumors recurred (30%). Five patients died, four with widespread metastases (15%) and one of unrelated causes. Tumors that recurred or metastasized were distributed among all three histologic groups. The interval between the onset of symptoms and metastasis for three of the four lethal tumors was 31 yr, 28 yr, and 8-1/2 yr; in the fourth case it was unknown. For the entire series, the 5-yr actuarial survival rate was 89%. Although the number of cases is too small to serve as a basis for firm conclusions, the lack of unequivocal correlation between the histologic features and clinical behavior is consistent with the unpredictable behavior of this neoplasm, as concluded by other investigators. Because of the apparent circumscription of most of these tumors, complete surgical excision rather than exenteration is recommended. Metastasis usually develops late in the clinical course of the disease, indicating that long-term follow-up studies are required before a cure can be assumed. (Author abstract) (34 Refs)

CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY

14. HETEROZYGOSITY AT GM LOCI ASSOCIATED WITH HUMORAL IMMUNITY TO OSTEOSARCOMA.

Pandey JP, Shannon BT, Tsang KY, Fudenberg HH, Camblin JG

Deppt. Basic and Clinical Immunology and Microbiology, Medical Univ. South Carolina, Charleston, SC, 29425

J Exp Med; 155(4):1228-1232 1982

The possible role of Gm allotypes (genetic markers of IgG) in predisposition to osteosarcoma was investigated. Blood was collected from 50 patients with osteoblastic sarcomas and the presence of osteosarcoma-associated antigens (OSAA) was studied and Gm allotyping was performed. Of the five Gm phenotypes present in the blood, none were significantly associated with osteosarcoma. Two Gm phenotypes (Gm 3;5,13,14 and Gm 1,3,17;5,13,14,21) were significantly associated with immune response to OSAA: the first was associated with no detectable antibody (8% positive and 63% negative) and the second was clearly associated with detectable antibodies to OSAA (83% positive and 11% negative). Since the most probable genotype of the Gm 3;5,13,14 phenotype is Gm 3;5,13,14/Gm 3;5,13,14 and that of Gm 1,3,17;5,13,14,21 is Gm 1,17;21/Gm 3;5,13,14, it was postulated that two Ir genes were in linkage disequilibrium with the Gm 1,17;21 and Gm 3;5,13,14 haplotypes. Possession of either gene alone would not confer humoral responsiveness to OSAA; however, in the heterozygous condition (Gm 1,17;21/Gm 3;5,13,14) the genes would complement to permit a humoral response to OSAA. (23 Refs)

CHEMOTHERAPY

15. COMBINATION CHEMOTHERAPY (CYVADIC) IN METASTATIC SOFT TISSUE SARCOMAS.

Karakousis CP, Rao U, Park HC

Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263

Eur J Cancer Clin Oncol; 18(1):33-36 1982

Forty-one patients with metastatic sarcoma were treated with Adriamycin, 50 mg/m2 iv on Day 1, Cyclophosphamide, 500 mg/m2 iv on Day 1, Vincristine, 1 mg/m2 iv on Days 1 and 5, and Dacarbazine (DTIC), 250 mg/m2 iv on Days 1-5 (CYVADIC). Three patients had a complete regression, while eight patients had a partial regression of greater than 50%. The combined response rate was 27%. Eight additional patients showed stabilization of disease for an average of 5 mo while 22 patients progressed on CYVADIC. Ultimately, seven patients with initial tumor regression had progression of their disease. Four patients with partial regression had excision of the regressed nodules of tumor and continued on chemotherapy for a yr. They remain alive at a median follow-up of 24.5 mo, suggesting that removal of partially regressed nodules may improve results. (Author abstract) (19 Refs)

16. N-(PHOSPHONACETYL)-L-ASPARTATE (PALA) IN ADVANCED SOFT TISSUE SARCOMA: A PHASE II TRIAL OF THE EORTC SOFT TISSUE SARCOMA GROUP.

Bramwell V, Van Oosterom A, Mouridsen HT, Cheix F, Somers R, Thomas D, Rozencweig M

Dept. Medical Oncology, Univ. Manchester, Christie Hosp., Wilmslow Road, Manchester, England

Eur J Cancer Clin Oncol; 18(1):81-84 1982

Thirty-six patients with measurable or evaluable advanced soft tissue sarcoma were entered in a Phase II trial with PALA. Among the 27 evaluable patients, 15 were men, the median age was 55 yr (16-69) and the median performance status (Karnofsky) was 80 (50-100). Most patients had leiomyosarcoma (8), liposarcoma (3), neurofibrosarcoma (3), synovial cell sarcoma (3), or undifferentiated sarcoma (3). Indicator lesions consisted essentially of lung metastases (21) and/or soft tissue lesions (14). All patients had received prior chemotherapy with 1-5 regimens and six had achieved objective response with these previous treatments. PALA was given as a 60-min iv infusion at a daily dose of 2.5 g/m2 for two consecutive days. Courses were repeated every 2 wk. A median number of three courses (2-17) were administered. Partial remission (greater than 50%) was obtained in one patient with a liposarcoma who had also responded to prior combination chemotherapy. This single response to PALA lasted 6 wk from initiation of therapy. Four patients had unchanged disease after six+ courses of PALA and 22 had progressive disease. Toxic effects were generally mild to moderate and included cutaneous toxicity (17), diarrhea (14), stomatitis (13), ocular manifestations, consisting of conjunctivitis, corneal ulceration and/or photophobia (11), nausea and vomiting (6) and, possibly, seizures (2). There was no evidence of drug-related myelosuppression. It is concluded that PALA given at the dose schedule selected for this trial has no significant antitumor activity in advanced soft tissue sarcoma previously treated with chemotherapy. (Author abstract) (23 Refs)

17. THE TREATMENT OF SUBGLOTTIC HEMANGIOMAS OF INFANTS WITH PREDNISONE.

Sadan N, Sade J, Grunebaum M

Dept. Pediatrics, Meir General Hosp., Sapir Medical Center, Kfar-Saba, Israel

Int J Pediatr Otorhinolaryngol; 4(1):7-14 1982

Five infants (1 male, 4 female; 6 wk-13 mo old at initial treatment) with stridor and respiratory distress were examined by direct laryngoscopy and found to have subglottic hemangiomas. by direct laryngoscopy. All the infants presented with stridor and respiratory distress. Three patients had hemangiomas on other parts of the body: neck, face and mouth, or scalp and chest. Tracheostomy was performed in one child. The only other treatment was with prednisone (PRE; 3-5 mg/kg/day for 2-3 wk then gradually tapered thereafter for 8 wk). The patients were followed up for 1.5-10 yr. In all patients, stridor and dyspnea disappeared within the first wk of treatment. In two patients symptoms recurred shortly after completion of the first course of PRE, but subsided rapidly a few days after beginning the second course. In three patients, symptoms did not recur, even when the patients had episodes of upper respiratory infection. Enlargement of the subglottic region was observed in two patients on control roentgenograms of the neck after treatment as compared with pretreatment films. The only side effect was moon-facing, which subsided following completion of therapy. PRE, when begun early, may reduce the need for tracheostomy and may permit complete recovery with proper dosage and length of treatment. (28 Refs)

SURGERY

18. A MULTIVARIATE ANALYSIS OF THE PROGNOSIS AFTER SURGICAL TREATMENT OF MALIGNANT SOFT-TISSUE TUMORS.

Markhede G, Angervall L, Stener B

(c/o Stener) Dept. Orthopedic Surgery II, Sahlgrenska Hosp., S-413 45 Goteborg, Sweden

Cancer; 49(8):1721-1733 1982

Ninety-seven patients who had received their primary and definitive surgical treatment for a soft-tissue sarcoma during the years 1956-1976 were studied with respect to local recurrence, metastasis, and survival. The aim of the treatment was to eradicate the tumor while preserving good function. The influence of host and tumor properties and different diagnostic and surgical procedures on the prognosis was studied by means of nonparametric multivariate analysis. Ninety-four percent of the tumors were located in the extremities. Malignant fibrous histiocytoma was the most common histologic type. A four-grade scale of histologic malignancy was used. Eighty-eight percent of the tumors were Grade III or IV. In 85% of the patients with an extremity lesion, local extirpation was carried out. The overall local recurrence rate was 21.7% and in 76 patients who underwent an adequate surgical procedure it was 6.6%. The overall 5-yr survival rate was 59%. The survival depended on the local control of the primary tumor, which was related to the adequacy of the surgical procedure and to the histologic grade of malignancy. No patient with a Grade I or II tumor died. The 5-yr survival rate for patients with Grade III tumors was 68% and for patients with Grade IV tumors 47%. (Author abstract) (33 Refs)

19. CYSTOSARCOMA PHYLLOIDES OF THE BREAST: A NEW THERAPEUTIC PROPOSAL.

Contarini O, Urdaneta LF, Hagan W, Stephenson SE
2726 St. Johns Ave., Suite 5, Jacksonville, FL, 32205
Am Surg; 48(4):157-166 1982

An analysis of forty cases of cystosarcoma phylloides of the breast was undertaken to clarify the relationship between histology, surgical treatment and prognosis of this fibroepithelial tumor. Thirty-eight female patients 12 to 85 yr of age, treated for this diagnosis over a 17-yr period, were studied retrospectively. Histologically malignant lesions were diagnosed in 17 cases: 6 were treated by local excision, 1 by subcutaneous mastectomy with prosthetic implant, 4 by simple mastectomy, 3 by modified, 2 by radical mastectomy, and 1 by biopsy only. Of the 23 histologically benign tumors, 18 were treated by local excision, 3 had simple mastectomy, and 1 had subcutaneous mastectomy with prosthetic implant. Three recurrences, observed (7.5%) among patients with benign tumors, were locally excised. Wide local reexcision has controlled the disease to date after av follow-up of 32 mo. In the malignant group, metastases developed in four patients (10%). Three of these patients are dead of disease and one is being treated by chemotherapy. Malignant histology seemed to correlate directly to the presence of pain (46.6%), size of the tumor (av 7 cm in diameter), and older age (av 52 yr), but there was no correlation with prognosis. Recent reports on the subject advocate wide local excision for small benign lesions and simple mastectomy for larger or malignant ones. Our data indicates that the histologic appearance does not correlate with the clinical behavior of this neoplasm, and the choice of the procedure does not alter the long-term result, provided that the tumor is completely excised. More radical procedures than wide local excision are not justified for cystosarcoma phylloides which behaves more like a soft tissue sarcoma than a breast gland tumor. (Author abstract) (32 Refs)

MULTIMODAL THERAPY

20. THE TREATMENT OF LOCALIZED EWING'S SARCOMA: THE EXPERIENCE AT THE ISTITUTO ORTOPEDICO RIZZOLI IN 163 CASES TREATED WITH AND WITHOUT ADJUVANT CHEMOTHERAPY.

Bacci G, Picci P, Gitelis S, Borghi A, Campanacci M
Istituto Ortopedico Rizzoli, Via Codivilla 9, 40136 Bologna, Italy
Cancer; 49(8):1561-1570 1982

Eighty consecutive patients with localized Ewing's tumor treated with adjuvant chemotherapy for 2 yr plus local tumor control were retrospectively reviewed. Adjuvant chemotherapy protocol was constant for all patients, but local treatment consisted of amputation, resection (complete or incomplete) plus radiotherapy, or radiotherapy alone. The follow-up ranged from 21-101 mo (mean = 50 mo). The mortality rate and incidence of metastasis were significantly lower than in a comparable group of 83 patients previously treated by radiotherapy, or surgery plus radiotherapy but without chemotherapy. The percentage of local recurrence was not significantly different between the two groups. Of the patients treated with adjuvant chemotherapy, the percentage of local recurrence and metastases was much lower when the primary lesion was located in the extremities and when this lesion was treated by conservative surgery followed by irradiation. This was also true when the resection was not complete. Little discrepancy in functional results was observed using either resection plus radiotherapy or radiotherapy alone. The above data suggest that in treating Ewing's sarcoma, conservative surgery, even incomplete, can play an important role when associated with radiotherapy and adjuvant chemotherapy. (Author abstract) (42 Refs)

21. SURGICAL TREATMENT OF LOW GRADE SOFT TISSUE SARCOMAS.

Devereux DF, Wilson RE, Corson JM, Antman KH, Greenberger JS
(c/o Wilson) Dept. Surgery, Brigham and Women's Hosp., 75 Francis St., Boston, MA, 02115
Am J Surg; 143(4):490-494 1982

Nineteen patients who have undergone surgical resection of low grade soft tissue sarcomas were retrospectively reviewed. Four patients received additional radiation therapy, and 15 did not. Of the 15 patients treated by surgery alone, 4 had positive margins in the original specimen; all 4 had local recurrence within a mean of 42 mo. Eleven patients had negative margins. Ten have had no recurrence in a mean of 40 mo. One patient had local recurrence at 36 mo. Two of the four patients with positive margins were reoperated on and in achieving negative margins have remained disease-free a mean of 84 mo. Three patients receiving additional postoperative radiation therapy had positive margins, and all had recurrence in a mean of 36 mo. One patient with negative margins who also received radiation therapy is disease-free at 144 mo. It appears that tumor-positive margins are associated with a high likelihood of local recurrence, whereas negative margins appear associated with a long disease-free interval and possible cure. Radiation therapy to positive margins did not prevent local recurrence. (Author abstract) (10 Refs)

22. THE ROLE OF CHEMOTHERAPY AS AN ADJUVANT TO SURGERY IN THE INITIAL TREATMENT OF PRIMARY SOFT TISSUE SARCOMAS IN ADULTS.

Das Gupta TK, Patel MK, Chaudhuri PK, Briele HA
(c/o Peg Blaul) Div. Surgical Oncology, Univ. Illinois at the Medical Center, Room 372, CME Building, 840 South Wood St., Chicago, IL, 60612
J Surg Oncol; 19(3):139-144 1982

A prospective study was carried out to determine the results of chemotherapy as an adjuvant to surgery in the initial treatment of adult primary soft tissue sarcomas. The results were compared with those in a group of patients with similar histologic types of primary sarcoma treated by surgery alone. The chemotherapy regimen consisted of adriamycin, 60 mg/m2 iv on Day 1, and dacarbazine (DTIC), 250 mg/m2 on Days 1 through 5. The cycle was repeated every 22 days. The total dose of adriamycin was 500 mg/m2; the DTIC was continued for 1 yr. The adjuvant chemotherapy group consisted of 113 patients (Group 1) and the concurrent surgical resection group consisted of 144 patients (Group 2). In Group one, 53 tumors were T1 and 60 tumors were T2; 67 of the tumors were Grade 3 and 46 were Grade 4. In Group two, 65 had T1 and 79 had T2 tumors; 82 tumors were Grade 3 and 62 were Grade 4. The anatomic location and histologic types were similar in both groups. Seventy-seven (77%) of the 113 patients in Group one lived disease free for 2 yr, compared with 59% of the 144 patients treated by resection alone. Of the patients eligible for 5-yr survival analysis, 74% were disease free in the adjuvant chemotherapy group, compared to 50% in the surgical group. The incidence of local recurrence was about the same in both groups. From a histologic standpoint, malignant fibrous histiocytomas and myogenic sarcomas appeared to benefit most with use of the two-drug regimen used here, and the least favorable response was in liposarcomas and fibrosarcomas. In other histologic types, the role of adjuvant chemotherapy needs further clarification. (Author abstract) (16 Refs)

23. IMPROVED THREE-YEAR DISEASE-FREE SURVIVAL IN OSTEOGENIC SARCOMA. EFFICACY OF ADJUNCTIVE CHEMOTHERAPY.

Bleyer WA, Haas JE, Feigl P, Greenlee TK, Schaller RT, Morgan A, Pendergrass TW, Johnson FL, Bernstein ID, Chard RL, Hartmann JR
Div. Hematology/Oncology, Children's Orthopedic Hosp. and Medical Center, P.O. Box C5371, 4800 Sand Point Way NE, Seattle, WA, 98105
J Bone Joint Surg [Br]; 64(2):233-238 1982

Of 41 consecutive patients with newly diagnosed osteogenic sarcoma admitted to the Children's Orthopedic Hospital and Medical Center in Seattle, Washington, between 1952 and 1977, 19 treated before 1973 did not receive adjunctive chemotherapy (historical group) whereas after 1972 22 have been so treated (chemotherapy group). Chemotherapy consisted primarily of high doses of methotrexate and adriamycin for 16 mo after surgical treatment. Patients in the historical groups have been observed for a minimum of 9 yr (6 patients) or until death (13 patients). The 13 surviving patients in the chemotherapy group have been followed for a minimum of 3 yr (median 5 yr) and all 12 disease-free patients have been off therapy for between 1 1/2 and 5 1/2 yr (median 3 yr). Overall, the chemotherapy group has had a significant increase in both survival ($p = 0.03$) and disease-free survival ($p = 0.02$) compared to the historical group. In 35 patients with localized disease at diagnosis, the 3-yr disease-free survival and the 3-yr survival rates were 18% and 41% respectively in the historical group, and 67% and 78% (life table estimates) respectively in the chemotherapy group. With adjunctive chemotherapy only one of the seven patients developing pulmonary metastases did so later than 9 mo after diagnosis. The superior results in the chemotherapy group could not be accounted for by differences in age, sex, presence of metastases at diagnosis, histopathology, location of primary tumor, type of initial or subsequent surgical treatment, or the use of standard or computerized lung tomography. Although the use of historical controls in this study does not exclude other changes as contributing to the observed improvement in outcome, our data support the contention that adjunctive chemotherapy improves both the disease-free survival and the overall survival of patients with osteosarcoma and rarely delays the onset of recurrent or metastatic disease. (Author abstract) (12 Refs)

CASE REPORTS

24. THE ASSOCIATION BETWEEN KAPOSI'S SARCOMA AND DYSGAMMAGLOBULINEMIA.

Ben-Chetrit E, Ben-Amitai D, Levo Y
(c/o Levo) Div. Clinical Oncology, Natl. Jewish Hosp., 3800 E. Colfax Ave., Denver, CO, 80206
Cancer; 49(8):1649-1651 1982

The case of a patient with Kaposi's sarcoma and paraproteinemia is described and the relevant literature is reviewed. It is suggested that Kaposi' sarcoma is part of the spectrum of the lymphoproliferative diseases, and that both the marked angiogenesis and the synthesis of paraproteins in this disease are different expressions of the same proliferative process. (Author abstract) (28 Refs)

25. TUMOR CONFERENCE 41: SPONTANEOUSLY DISAPPEARING KAPOSI'S SARCOMA.

Bart RS, Kopf AW
Oncology Section, Skin and Cancer Unit, New York Univ. Medical Center, New York, NY
J Dermatol Surg Oncol; 8(4):257-259 1982

A 68-yr-old man presented with a lesion on the arch of his foot which was histologically diagnosed as Kaposi's sarcoma (KS). After several wk the entire lesion disappeared spontaneously without therapy. Spontaneous remission of KS had also occurred 6 yr previously. This occurrence of KS with spontaneous regression is rare. Immuno-suppression appears to be a common factor of KS in homosexual men and recipients of renal transplants who develop KS. (7 Refs)

26. EXTRASKELETAL EWING'S SARCOMA OF THE EPIDURAL SPACE. A REPORT OF TWO CASES WITH A REVIEW OF THE LITERATURE.

N'Golet A, Pasquier B, Pasquier D, Lachard A, Couderc F
Departement d'Histopathologie Institut Superieur des Sciences de la Sante, Universite Marien N'Gouabi, BP 69, Brazzaville, Congo
Arch Anat Cytol Pathol; 30(1):10-13 1982

Two cases of extraskeletal Ewing's sarcoma are reported. A 30-yr-old man who presented with a history of paresthesia followed by paralysis of the legs underwent laminectomy for resection of a tumor which occupied the left epidural space from D1 to D3. Further treatment of radiotherapy, chemotherapy, and cortisone therapy improved postoperative pain. At 1.5 yr following the appearance of symptoms the patient was free of recurrent sarcoma. A 47-yr-old woman presented with symptomatology of an incomplete medullary compression which led to a diagnosis of compressive hernia in the lumbar region. Laminectomy permitted the excision of an extradural tumor without bony involvement. Two more episodes of dorsal medullary compression led to further surgical intervention. The patient died 4 mo following diagnosis. There was no autopy. (12 Refs) (In FRE)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

27. OUTBREAK OF KAPOSI'S SARCOMA WITH CYTOMEGALOVIRUS INFECTION IN YOUNG HOMOSEXUAL MEN.

Urmacher C, Myskowski P, Ochoa M, Kris M, Safai B
Memorial Hosp., 1275 York Ave., New York, NY, 10021
Am J Med; 72(4):569-575 1982

Kaposi's sarcoma, a multicentric malignant neoplasm, occurs in certain geographic areas in the world. It is most common in Equatorial Africa and Eastern Europe. The annual incidence of Kaposi's sarcoma in the United States is between 0.021 and 0.061 per 100,000 persons. The appearance of an outbreak of Kaposi's sarcoma in young homosexual men in New York and California is a new and unique phenomenon. Certain differences are already recognized between the disease in these young men and the ordinary Kaposi's sarcoma. Herein we report our observations of the first 10 cases of Kaposi's sarcoma in young homosexual men. In these patients, the disease follows an aggressive clinical course characterized by widespread skin lesions with early involvement of the lymph nodes. In some of these patients, the result was death in a short period of time after initial diagnosis. In addition, cytomegalovirus infections were seen in these patients, which suggests at least a possible association between this virus and the disease. (Author abstract) (17 Refs)

28. CHILDHOOD CANCER IN OFFSPRING OF TWO WILMS TUMOR SURVIVORS.

Kantor AF, Li FP, Fraumeni JF, Curnen MG, Flannery JT
Environmental Epidemiology Branch, NCI, C307 Landow Building, Bethesda, MD, 20205
Med Pediatr Oncol; 10(1):85-89 1982

A search was made for cancer among offspring and siblings of 149 Connecticut-born children with Wilms tumor reported to the Connecticut Tumor Registry during 1935 to 1973. Nasopharyngeal rhabdomyosarcoma developed in the daughter of a man with unilateral Wilms tumor that also affected his sister. Hodgkin disease developed in the daughter of a women who had unilateral Wilms tumor. One other patient had a sibling with Wilms tumor and three had a sibling with other cancers (2 Hodgkin disease, 1 testicular seminoma). The survey suggests an excess risk of other forms of cancer among the progeny and siblings of Wilms tumor patients. (Author abstract) (18 Refs)

29. DEVELOPMENT OF RADIOLOGICAL AND CLINICAL EVIDENCE OF PARENCHYMAL FIBROSIS IN MEN WITH NON-MALIGNANT ASBESTOS-RELATED PLEURAL LESIONS.

McMillan GH, Rossiter CE
Medical Res. Unit, HM Naval Base, Devonport PL1 4RU, England
Br J Ind Med; 39(1):54-59 1982

After assessment of radiographs taken in 1966, 201 men employed at HM Dockyard, Devonport, were judged to have pleural abnormalities due to exposure to asbestos but to be free from small opacities (ILO U/C 1971 category 1/1 or more), mesothelioma, or bronchial carcinoma. By 1976, 32 of these men had died. Of the survivors, 155 were re-examined to determine the attack rates of parenchymal fibrosis or malignant disease, or both. In 1976, 16 (10.3%) of the survivors had radiographs showing small opacities of category 1/1 or more. When additional clinical criteria had to be satisfied before a diagnosis of parenchymal fibrosis was made the attack rate in the survivors was 4.5%. These attack rates were substantially higher than those observed in a sample of men with no initial pleural abnormality but were unrelated to age, smoking habit, occupation, duration of exposure to asbestos, or type of pleural abnormality. The number of cases of malignant disease was too small to allow any reliable conclusions. (Author abstract) (16 Refs)

30. MESOTHELIOMA MORTALITY IN ASBESTOS WORKERS: IMPLICATIONS FOR MODELS OF CARCINOGENESIS AND RISK ASSESSMENT.

Peto J, Seidman H, Selikoff IJ
Imperical Cancer Res. Fund Cancer Epidemiology Unit., Radcliffe Infirmary, Oxford OX2 6HE, England
Br J Cancer; 45(1):124-135 1982

Mesothelioma death rates in asbestos workers appear to be proportional to the 3rd or 4th power of time from first exposure under a wide range of conditions of exposure for both pleural and peritoneal tumors, though the peritoneal:pleural ratio depends on fiber dimension and type. Age at first exposure has little or no influence, however, which supports the 'multi-stage' model of carcinogenesis under which the increase in most cancer incidence rates with age is due to a constant incidence of genetic or epigenetic accidents, rather than to progressive generalized changes in regulatory or immune function. These relationships provide a simple basis for risk assessment, and support the suggestion that mesotheliomas may constitute a high proportion of cancer deaths resulting from early exposure to asbestos. (Author abstract) (24 Refs)

31. CRITERIA FOR THE DIAGNOSIS OF ASBESTOSIS AND CONSIDERATIONS IN THE ATTRIBUTION OF LUNG CANCER AND MESOTHELIOMA TO ASBESTOS EXPOSURE.

McCullagh SF, Aresini G, Browne K, Korsgaard B, Lepoutre J, Lesage M, Lewinsohn HC, Mansour F, Mills MC, Paul WR, Raffaelli C, Smither WJ, Tucker RB, Murray R, Loison C

No affiliation given

Int Arch Occup Environ Health; 49(3/4):357-361 1982

Asbestosis is defined as an irreversible, diffuse fibrosis of the parenchyma of the lung due to inhalation of asbestos fibers. The criteria for diagnosis are discussed: (a) history, (b) clinical signs and symptoms, (c) radiological aspects, (d) other investigations (asbestos [ferruginous] bodies, biopsy), (e) lung function abnormalities, (f) differential diagnosis. Mesothelioma (M) attributable to asbestos has a latency of 20-40+ yr, although it need not be associated with even minimal asbestosis. Diagnosis of M should be based on necropsy, with attention given to excluding the tumor being a metastasis from another site. In industrial populations, while most M is associated with asbestos, no such association is seen in 10-30% of the cases. While smoking does not affect the likelihood of contracting M, it does increase the likelihood of asbestos workers contracting lung cancer. Except at lower levels of exposure, asbestos workers are at risk for bronchogenic cancer. There is no distinctive pathology for asbestos-induced lung cancer. In the presence of asbestosis, an adenocarcinoma situated peripherally and in a lower zone is indicative of asbestos exposure 15 or more yr previously. (no Refs)

32. GARDNER'S SYNDROME: SIX GENERATIONS.

Palmer TH

431 State St., Bangor, ME, 04401

Am J Surg; 143(4):405-408 1982

A family of 68 members in six generations has been investigated, and thus far 23 of these have had colorectal polyposis, cancer or both. Many of the 23 have had a variety of soft tissue lesions, occult osteomas of the mandible, and dental abnormalities. Six of nine siblings in the proband's immediate family had diffuse colorectal polyposis and soft tissue lesions, as have 4 of their 20 children. One of three members of the most recent generation has polyposis and skin lesions. Retrospectively, 2 of the proband's 18 maternal cousins had colorectal polyposis or cancer, as did five of six siblings in her mother's generation. Four of nine siblings in the previous generation died from colon cancer, and so did their father. In the first three generations cancer was prevented in only 1 of 10 patients. Two of 13 in the later three generations thus far have died from colorectal cancer. Both coloproctectomy and colectomy with preservation of the rectum have been utilized in the patients in this study. Lifelong follow up is underway for those whose rectum has not been removed. (Author abstract) (24 Refs)

REVIEWS

33. MALIGNANT BONE TUMORS IN CHILDREN: A DECADE OF PROGRESS.

Jaffe N
Dept. Pediatrics, M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
Front Radiat Ther Oncol; 16:105-113 1982

The diagnosis and treatment of malignant bone tumors in children has improved greatly in the past 10 yr. With the use of combination chemotherapy and newer diagnostic and surgical techniques, the actuarial disease-free (NED) survival rate at 3-5 yr in osteosarcoma patients is now 50-80% (vs 20% in historical controls). Megavoltage radiotherapy (RT) and combination chemotherapy using agents with different mechanisms of action and minimal overlapping toxicity can provide local control and good functional results in greater than 80% of Ewing's sarcoma patients, with an actuarial NED survival rate at 3-5 yr of 55-75% (vs 8-24% in historical controls). These improved results are applicable only to patients with localized Ewing's sarcomas. Non-Hodgkin's lymphomas (NHL) seldom involve bone in children; their behavior resembles NHL of other sites. RT to the primary tumor and antileukemic combination chemotherapy may be curative in greater than 80% of patients with localized NHL of bone, but these patients are at risk of leukemic transformation. The 5-yr survival rate is 35-50%. The standard treatment for eosinophilic granuloma of bone is excisional surgery or local RT. If this treatment might damage an adjacent epiphyseal plate, local injection of methylprednisolone may be an effective alternative therapy. Attempts to enhance host immunologic reactions to bone tumors (eg, osteosarcoma) have not proven clearly superior to conventional treatments. The continuing controversy over the validity of historical control data has led to studies demonstrating the importance of age, sex, primary tumor site, histologic grade, and tumor type as significant prognostic factors. (46 Refs)

34. SOFT TISSUE SARCOMAS IN CHILDHOOD.

Hays DM
Dept. Surgery, USC Sch. Medicine, Children's Hosp. Los Angeles, Los Angeles, CA, 90033
Front Radiat Ther Oncol; 16:114-121 1982

Chemotherapy (eg, vincristine, actinomycin D, and cyclophosphamide, VAC; with or without adriamycin), conservative surgery, and postoperative radiotherapy (RT) are indicated for children with rhabdomyosarcomas. Initial good results may occur in about 70%. Recurrences may be controllable by exenteration. Pelvic rhabdomyosarcomas respond best to chemotherapy. An alveolar histologic type is an unfavorable sign, regardless of tumor site; these tumors tend to recur distantly rather than locally. Conservative surgery is indicated for the treatment of fibrosarcomas in children less than 10 yr old. Even fibrosarcomas of anaplastic or 'invasive' histology seldom recur in this age group. Limb-saving surgery can be considered for adolescents (greater than 15 yr old), provided that skeletal growth is nearly complete. Synovial sarcomas are more likely to recur and disseminate than fibrosarcomas. Amputation may be preferable to limited resection and high-dose RT, especially if the tumor is near an osseous growth center. Small cell soft tissue sarcomas are seldom controlled by radical surgery. These patients may respond to the same chemotherapy (eg, VAC) as children with rhabdomyosarcomas. Chemotherapy followed by tumor resection is recommended for the treatment of hemangiosarcomas in children. Conservative resection is recommended for the treatment of benign neurofibromas in children. Malignant transformation of these tumors is uncommon in childhood (less than 10%). Malignant neurofibrosarcomas may be controllable by aggressive multimodality treatment, beginning with radical surgery. (12 Refs)

35. RHABDOMYOSARCOMA OF THE HEAD AND NECK.

Feldman BA
1145 - 19th St. NW, Washington, DC, 20036
Laryngoscope; 92(4):424-440 1982

Rhabdomyosarcoma is an uncommon neoplasm that is seen in the head and neck area. Since the symptoms of rhabdomyosarcoma, such as aural discharge and nasal obstruction, mimic common disease states, the clinical diagnosis is often delayed. Case reports and a literature review are presented to emphasize the clinical and roentgenological findings in rhabdomyosarcoma. Misinterpretation of microscopic findings can delay the histological diagnosis. Cross-striations, the 'hallmark' of rhabdomyosarcoma, are not always found, while 'racquet' and 'spindle' cells may be seen. Special stains and electron microscopy can assist the pathologist. The pathological findings of the different variants of rhabdomyosarcoma and a review of cases accessioned by the AFIP Otolaryngic Registry are presented. Early diagnosis of rhabdomyosarcoma is important because the disease, once inevitably fatal, can now be controlled and apparently cured in most cases by a combination of surgery, radiation, and multidrug chemotherapy. This therapeutic approach, its results, complications, and support measures are considered. (Author abstract) (93 Refs)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1982—361-847/124

AUTHOR INDEX WITH CITATION NUMBERS

Akerman M. 6
Alons CL 5
Angervall L 18
Antman KH 21
Aresini G 31
Avagnina A 4
Bacci G 20
Bart RS 25
Ben-Amitai D 24
Ben-Chetrit E 24
Bergonzi S 8
Bernstein ID 23
Besuschio SC 4
Bleyer WA 23
Boon ME 5
Borghi A 20
Bramwell V 16
Bretsky SS 1
Briele HA 22
Browne K 31
Butler A 1
Camblin JG 14
Campanacci M 20
Chard RL 23
Chaudhuri PK 22
Cheix F 16
Contarini O 19
Cooney TP 3
Coopmans de Yol 8
Corson JM 21
Couderc P 26
Croxatto JO 13
Curnen MG 28
Dahlin DC 2
Das Gupta TK 22
De Potente GL 4
Devereux DF 21
Dzihniszewski G 10
Feigl P 23
Feldman BA 35
Flannery JT 28
Fon GT 9
Font RL 12
Font RL 13
Fraumeni JF 28
Fudenberg HH 14
Gardani G 8
Garrison RC 2
Gitelis S 20
Gold RH 9
Greenberger JS 21
Greenlee TK 23
Grunebaum M 17
Guzzon A 8
Haas JE 23
Hagan W 19
Hartmann JR 23
Hays DM 34
Hidayat AA 12
Hojman D 4
Hoogstraten J 3
Huvos AG 1
Hwang WS 3
Jaffe N 33
Johnson FL 23
Kaiser LR 9
Kantor AF 28
Karakousis CP 15
Kopf AW 25
Korsgaard B 31
Kremenchutzky G 4
Kris M 27
Kwee HS 5
Lachard A 26
Lepoutre J 31
Lesage M 31
Levo Y 24
Lewinsohn HC 31
Li FP 28
Liu F 7
Loison C 31
Mansour F 31
Markhede G 18
McCullagh SF 31
McLeod RA 2
McMillan GH 29
Meister P 11
Mills MC 31
Morawetz F 5
Morgan A 23
Mouridsen HT 16
Murray R 31
Myskowski P 27
N'Golet A 26
Nathrath W 11
Nordgren H 6
Ochoa M 27
Palmer TH 32
Pandey JP 14
Park HC 15
Pasquier B 26
Pasquier D 26
Patel MK 22
Paul WR 31
Pendergrass TW 23
Peto J 30
Picci P 20
Pritchard DJ 2
Raffaelli C 31
Rao U 15
Robertson DI 3
Rosen G 1
Rossiter CE 29
Rozencweig M 16
Sadan N 17
Sade J 17
Safai B 27
Schaller RT 23
Seidman H 30
Selikoff IJ 30
Shannon BT 14
Smither WJ 31
Somers R 16
Stener B 18
Stephenson SE 19
Thomas D 16
Tsang KY 14
Tucker RB 31
Unni KK 2
Urdaneta LF 19
Urmacher C 27
Van Oosterom A 16
Veldhuizen RW 5
Viganotti G 8
Von Bulow M 10
Wilson RE 21
Wong WS 9

VIDEOTAPES

ON CURRENT TOPICS IN CANCER RESEARCH

A pilot project of the International Cancer Research Data Bank (ICRDB) Program of the National Cancer Institute

Three series are available . . .

THE RELATION OF CARCINOGEN ACTION ON DNA TO CELL TRANSFORMATION

PETER MAGEE Fels Research Institute	*Keynote Address*	#VK01 28 min.
JAMES K. SELKIRK Oak Ridge National Laboratories	*Metabolic Activation and Macromolecular Binding of Chemical Carcinogens*	#VK02 51 min.
PHILIP C. HANAWALT Stanford University	*Cellular Responses to Damaged DNA*	#VK03 54 min.
CHARLES HEIDELBERGER University of Southern California	*Mutagenesis and Oncogenic Transformation of Mouse Embryo Cells*	#VK04 54 min.
FRED RAPP Milton S. Hershey Medical Center	*The Interaction of Herpesviruses and Host Cells Leading to Latency or Transformation*	#VK05 52 min.
	Panel Discussion	#VK06 31 min.

MECHANISMS OF METASTASIS

ISAIAH FIDLER Frederick Cancer Research Center	*The Heterogeneous Nature of Cancer Metastasis and Implications for Therapy*	#VB01 47 min.
GEORGE POSTE Smith, Kline and French Laboratories	*Phenotypic Analysis of Metastatic Cell Populations*	#VB02 42 min.
LANCE LIOTTA National Cancer Institute	*Tumor Cell Invasion of Basement Membranes and Extracellular Matrices*	#VB03 33 min.
EVERETT SUGARBAKER Miami Cancer Institute	*Some Clinical Characteristics of Metastasis in Man*	#VB04 41 min.

AUTOMATED CYTOLOGY

Part One: Principles and Techniques	#VB05 56 min.
Part Two: Biological Applications	#VB06 52 min.

VIDEOTAPES ON CURRENT TOPICS IN CANCER RESEARCH are in the 3/4" U-matic format and can be played on video equipment which accepts the NTSC standard (the standard for videotapes produced in the U.S.). The two Automated Cytology tapes (#VB05 and #VB06) are also available in the PAL format.

The videotapes are available on a loan basis. If you would like to schedule viewing for your group, or for more information, please write to:

Videotape Coordinator
ICRDB Program
Westwood Building, Room 10A18
Bethesda, MD 20205

Please specify three choices for viewing dates, and the tapes desired.

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). CANCERGRAMS are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S. MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT12 82/09

NEWARK PUBL!C LIB"ARY

NCI/ICRDB/CT12 82/09

PB82-938709

NOV 4 1982

U. S. GOVT.
DEPO

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/09

SEPTEMBER, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

PDQ (PROTOCOL DATA QUERY) - A NEW ONLINE CANCER DATABASE WILL BE AVAILABLE THIS FALL! PDQ LISTS THERAPY PROTOCOLS PLUS ADDRESSES AND PHONE NUMBERS OF CLINICAL INVESTIGATORS. CONTACT ICRDB FOR DETAILS.

In this issue:

- **DIAGNOSIS 1-8**
- **CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY 9**
- **CHEMOTHERAPY 10-15**
- **SURGERY 16-19**
- **MULTIMODAL THERAPY 20-25**
- **CASE REPORTS 26-31**
- **SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY 32**
- **SELECTED PRE-CLINICAL STUDIES 33-35**
- **REVIEWS 36**

DIAGNOSIS

1. LYMPHATIC DISSEMINATION OF BONE AND SOFT TISSUE SARCOMAS. EXPERIENCES FROM THREE INSTITUTIONS.

Tallroth K, Makai F, Musumeci R
Radiology Inst., Meilahti Hosp., Helsinki Univ. Central Hosp. (HYKS), 00290 Helsinki 29, Finland
Duodecim; 97(23/24):1940-1947 1981

Combined cases material of a study over a period of 10 yr from three countries (Finland, Czechoslovakia, Italy) are reported. Of 441 histologically confirmed cases 217 were sarcoma of the bone and 224 cases were sarcoma of the soft tissues. Occurrence of dissemination of bone and soft tissue sarcomas

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service • National Institutes of Health • National Cancer Institute

HE 20. 3173/2:

was studied. Total metastasis via the lymphatic system (LS) in bone cancer patients was 21% of the cases (28% for osteosarcoma, 18% for Ewing's sarcoma and 13% for chondrosarcoma). For the soft tissue cancer patients the overall figure was 28% (53% for rhabdosarcoma, 67% for anaplastic, 42% for neurogenic and 35% for synovial sarcoma). Percentages were below av for fibrosarcoma (13%) and liposarcoma (18%). For bone tumors, metastasis via the bloodstream was 3x higher than that occurring via the LS. For soft tissue tumors the bloodstream:LS ratio was 1.6. When dissemination occurred via LS Ewing's sarcoma, osteo-, rhabdomyo, and synovial sarcoma, had a poor prognosis. Positive lymphography findings were confirmed by biopsy in about one fourth of the case material. Correlation of all radiological and histological findings, positive and negative, indicated a diagnostic accuracy of 92%. Of the 441 cases, 183 were from the Helsinki hospital (78 bone, 105 soft tissue) and the remainder were about equally divided between the Czech and Italian institutions. (18 Refs) (In FIN)

2. DESMOPLASTIC DIFFUSE MESOTHELIOMA.

Cantin R, Al-Jabi M, McCaughey WT
(c/o McCaughey) Clinical Studies Unit Building, Canadian Tumour Reference Centre, Ottawa Civic Hosp., 60 Ruskin Ave., Ottawa, Ontario K1Y 4M9, Canada
Am J Surg Pathol; 6(3):215-222 1982

Twenty-seven cases (24 men, 3 women; 40-93 yr old; mean, 65.7 yr) of desmoplastic diffuse malignant mesothelioma (26 pleural, 1 peritoneal) are described. The tumor cell type was sarcomatous in 19 cases, biphasic (sarcomatous and epithelial components) in 6, and purely epithelial in 2. In 11 cases of purely sarcomatous cell type for which the total duration of illness was known, the mean survival period was 6.18 mo (only 1 case survived more than 1 yr). In contrast, four of eight cases with an epithelial component lived for over 1 yr, and the mean survival period was 15 mo in 5 cases for which the total period of survival was known. Metastases were observed in 11 of 18 cases (61.1%) in which autopsy data were available; this compares with a rate of 42.5% for 101 nondesmoplastic probable or definite diffuse pleural mesotheliomas for which autopsy data were available. The diversity of therapies in these 27 cases (surgery, surgery + radiation, radiation, radiation + chemotherapy) and the small number of cases involved do not permit any conclusions about the impact of these therapies on survival. (11 Refs)

3. CLINICAL AND LABORATORY FEATURES OF KAPOSI'S SARCOMA IN YOUNG HOMOSEXUAL MEN (MEETING ABSTRACT)

Kris M, Safai B, Myskowski P, Koziner B, Urmacher C, Gold J, Armstrong D, Pinsky C, Krown S, Ochoa M, Sherlock P
Memorial Sloan-Kettering Cancer Center, New York, NY, 10021
Proc Am Soc Clin Oncol; 1:C-700 1982

A cluster of Kaposi's Sarcoma (KS) cases has been observed among young homosexual men in the New York City area. Ten patients (pts), all with the onset of symptoms after 12/78, have been seen. THe median age was 38 years (range 32-55); 9 were white and 1 was an American black. Initial sites of disease were skin (8) and oral mucosa (2). Lymphadenopathy was seen in 7 pts and hepatosplenomegaly in 1 on initial examination. One pt had Pneumocystis carinii pneumonia at diagnosis. Gastrointestinal involvement was documented in 5 of 7 pts completely evaluated by either endoscopy or necropsy. Cytomegalovirus (CMV) titers were greater than 1:32 in 9 pts; 1 was anticomplementary. One pt had a 4-fold rise in CMV titer during his illness. Epstein-Barr viral capsid antigen titers, measured by the immunofluorescent antibody technique, were greater than 1:160 in 9 pts tested. CMV was cultured from the urine of 2 of 7 pts. Oral cultures grew Candida albicans in 3 pts. Antibody to hepatitis B was noted in all 5 tested pts. Serum immunoglobulins G, A, and M were normal or elevated in all 6 pts tested. Significantly lower ratios of T-helper (OKT4+) to T-suppressor (OKT8+) cells were noted in KS pts when compared to normal controls using anti-T-cell monoclonal antibodies. Two of the 10 pts died 10 and 16 months after histologic diagnosis despite treatment with chemotherapy. No other pts have received chemotherapy to date. (no Refs)

4. EWING'S SARCOMA (ES): A DESCRIPTIVE STUDY OF 154 PATIENTS (MEETING ABSTRACT)

Hanson MR, McKeen EA, Glaubiger DL, Gilman PA

National Cancer Institute, Bethesda, MD, 20205

Proc Am Soc Clin Oncol; 1:C-712 1982

Medical records were reviewed for all persons with ES seen at the National Cancer Institute, 1965-1979. One hundred and forty eight patients were white, 3 black, 1 Oriental, and 1 American Indian. THe mean age at diagnosis was 16.5 years (range 3 to 46). Bone cancer was reported in six second-degree relatives (three grandparents, one great grandparent, one uncle, one cousin). Only two sibs were reported with cancer; ten patients reported a parent with cancer. Congenital anomalies or other associated conditions were noted in the charts of 55 patients. Anomalies of the skeletal system appeared excessive. Eight had rib anomalies detected by radiograph, compared to 3.1 expected from the literature. Four had congenital anomalies of the vertebrae and two had hemidystrophies. Three had benign neoplasms of other bones. Two ES seemed to develop in an underlying bony anomaly: one in an aneurysmal bone cyst and another in an enchondroma. Genitourinary anomalies were also frequent. Unilateral duplication of the urinary collecting system was recorded in five of the 55 female patients; the rate among all patients with either intravenous pyelogram or autopsy (110), 1/22 is much greater than that found at autopsy 1/152. Of the 99 males with ES, two had hypospadias that required surgical correction as compared with 0.3 cases expected in white males. In total, 19 patients had anomalies of the genitourinary system. (no Refs)

5. RADIOGRAPHIC CHANGES IN PRIMARY OSTEOGENIC SARCOMA FOLLOWING INTENSIVE CHEMOTHERAPY. RADIOLOGICAL-PATHOLOGICAL CORRELATION IN 63 PATIENTS.

Smith J, Heelan RT, Huvos AG, Caparros B, Rosen G, Urmacher C, Caravelli JF

Dept. Radiology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021

Radiology; 143(2):355-366 1982

Sixty-three patients with osteogenic sarcoma of the long bones, all of whom were treated with chemotherapy, demonstrated striking and unusual radiographic changes. Patients with a 'good' radiographic response (48%) showed the most dramatic changes, including medullary sclerosis, prominent periosteal new bone formation, and disappearance of the soft-tissue mass; these findings correlated well with the histological grading of the surgical specimens. Radiographic evaluation of patients receiving chemotherapy for osteogenic sarcoma is a valuable method of assessing response. (Author abstract) (15 Refs)

6. HISTOPATHOLOGY AND PROGNOSIS IN RHABDOMYOSARCOMA (IRSI) (MEETING ABSTRACT)

Palmer N, Sachs N, Foulkes M
Children's Hospital, Columbus, OH, 43205
Proc Am Soc Clin Oncol; 1:C-660 1982

A new pathologic classification of pediatric rhabdomyosarcoma, of prognostic significance for progressive disease (PD) and death from continued tumor growth (TD) has been derived from a retrospective clinicopathologic study of patients treated in the first InterGroup Rhabdomyosarcoma Study (IRSI). Eighty-eight of 404 patients with rhabdomyosarcoma were either Anaplastic (AR) (60) or Monomorphous Round Cell (MRC) (28) subtypes. Both AR and MRC (combined: Unfavorable Histology, UH) are associated with significantly reduced relapse-free survival and an increased mortality (TD) compared to the remaining 316 (Mixed subtype: Favorable Histology, FH) In Groups I-IV 10 of 25 MRC and 19 of 47 AR were disease-free (DF) at 2 years; 12 MRC and 21 AR had died (TD) compared to 162 of 256 DF and 68 TD in the Mixed (FH). The FH/UH classification was tested, together with multiple pathologic and clinical parameters, in logistic regression models for its pedictive value for survival (non-TD) in Groups I-III. Clinical Group (IRS) was the strongest factor (Group I/III ratio of risk factor (for TD) of 3.76) followed by FH/UH. Within each Clinical Group, presence of UH increased the likelihood of TD by a factor of 2.69. The FH/UH system is based on cytologic findings only in contrast to the admixed cytologic (eg: embryonal) and tissue organization (eg: alveolar) features inherent in the conventional classification. (no Refs)

7. THE ULTRASTRUCTURE OF POORLY DIFFERENTIATED RHABDOMYOSARCOMAS: A CASE REPORT AND LITERATURE REVIEW.

Bundtzen JL, Norback DH
(c/o Norback), William S. Middleton Veterans Admin. Hosp., 2500 Overlook Terrace, Madison, WI, 53705
Hum Pathol; 13(4):301-313 1982

The ultrastructure of a case of rhabdomyosarcoma is reported, and the world literature on the ultrastructure of rhabdomyosarcomas is reviewed. The reported case was first observed as an undifferentiated malignancy originating in the maxillary antrum of a 46-yr-old white woman and later showed differentiated cells in metastatic sites. A specific feature of the sarcomere within a representative malignant cell is necessary and sufficient for diagnosis of rhabdomyosarcoma by ultrastructure. Examples of specific features include thick and thin filaments in a hexagonal array, an unambiguous Z line, or A bands with H and M bands. The presence of thick and thin filaments without additional features of the sarcomere indicate a myogenous origin, either leiomyosarcoma or rhabdomyosarcoma. Other ultrastructural features observed in rhabdomyosarcomas, for which the diagnosis is confirmed by the presence of diagnostic ultrastructural features or by the presence of cross-striations observed by light microscopy, include large irregularly shaped nuclei with projections and invaginations, free ribosomes closely associated with filaments, rough endoplasmic reticulum that is often dilated, glycogen, an external lamina, prominent nucleoli, and pleomorphic mitochondria. When this spectrum of features is present, the possibility of rhabdomyosarcoma cannot be excluded, and a diligent search for the diagnostic components of the sarcomere should be made. Small intercellular junctions, pinocytotic vesicles, and paranuclear cilia occurred in the poorly differentiated metastasis of this case; the presence of these nonspecific features permits neither diagnosis nor exclusion of rhabdomyosarcoma. (Author abstract) (70 Refs)

8. CYTOLOGY OF PRIMARY AND METASTATIC UTERINE SARCOMAS (MEETING ABSTRACT)

Massoni EA, Hajdu SI
Department of Pathology, Memorial Sloan-Kettering Cancer Center, New York, NY
Acta Cytol (Baltimore); 25(6):713 1981

Over a ten-year period (1970-1980), 358 women were treated for uterine sarcomas at Memorial Sloan-Kettering Cancer Center. The uterine sarcomas included leiomyosarcoma (47%), mesodermal mixed tumor (39%), endometrial stromal sarcoma (7%), spindle-cell sarcoma (4%), embryonal rhabdomyosarcoma (2%) and carcinosarcoma (1%). Cytologic specimens, either gynecologic, nongyneoclogic or both, were obtained from 165 patients. Forty-four gynecologic and 43 nongynecologic specimens from 58 patients (35%) contained malignant neoplastic cells. The primary sarcomas that were detected by examination of gynecologic specimens were mesodermal mixed tumor, leiomyosarcoma, carcinomsarcoma, endometrial stromal sarcoma and spindle-cell sarcoma. The 43 cytologically positive, nongynecologic specimens, which were obtained from patients with metastatic disease, were ascitic fluid, pleural fluid, aspirations, urine, cerebrospinal fluid, sputum and miscellaneous specimens. The majority of the metastatic neoplasms were mixed mesodermal tumors (58%) or leiomyosarcomas (30%). In the mesodermal mixed tumor group, the adenocarcinoma component was the most frequent single component to metastasize and was seen in 87% of the nongynecologic specimens. Cytologically, the neoplastic glandular epithelial cells were poorly differentiated and resembled neoplastic cells of poorly differentiated endometrial adenocarcinoma. The cells of leiomyosarcomas showed extreme variation in size and shape, ranging from the typical spindle cells to pleomorphic, round and bizarre giant-cell forms. (no Refs)

CLINICAL IMMUNOLOGY AND IMMUNOTHERAPY

9. TOLERANCE TEST WITH HUMAN LYMPHOCYTOBLAST INTERFERON. CONTROLLED STUDY IN 3-YEAR SURVIVAL OF PATIENTS WITH OSTEOSARCOMA.

Kotz R, Plattner E, Ramach W, Flener R, Bodo G
Orthopadische Universitatsklinik, Garnisongasse 13, A-1090 Wien, Austria
Arzneim Forsch; 32(4):446-448 1982

In eight patients with osteosarcoma we conducted a controlled tolerance study with human lymphoblast interferon. Interferon was applied for 12 mo and the control period after stopping interferon has lasted 12-42 mo up to now. Four out of eight patients who received interferon did not show any adverse reaction concerning clinical and laboratory tests during the course of a 1-yr application and during the follow-up period, respectively. Only reversible thrombopenias and an increase in the alpha2-globulins fraction were observed in the interferon and in the control group, respectively. All of the eight patients have up to now survived tumor-free. (Author abstract) (10 Refs) (In GER)

CHEMOTHERAPY

10. ADRIAMYCIN AND SINGLE DOSE DTIC IN SOFT TISSUE AND BONE SARCOMAS - A SOUTHWEST ONCOLOGY GROUP STUDY (MEETING ABSTRACT)

Saiki JH, Rivkin SE, Baker LH, Shahbender S, Fletcher WS
University of New Mexico, Cancer Research and Treatment Center, Albuquerque, NM, 87131
Proc Am Soc Clin Oncol; 1:C-703 1982

In 1977 the Southwest Oncology Group instituted a study of Adriamycin with DTIC (dacarbazine) administered by intermittent high dose single injection in an effort to lessen nausea and vomiting. Adriamycin is administered at a dose of 60 mg/m2 IV with DTIC, 750 mg/m2 IV infusion on day one with courses at 21 day intervals. The study was closed in September, 1981. Soft tissue and bone sarcomas were evaluated. Leiomyosarcomas comprised the largest individual soft tissue sarcoma type registered. One hundred and eight patients were eligible for study, 93 are evaluable and have had adequate trials. There have been 6 CR (complete remission) and 13 PR (partial remission) with an overall 20% response rate. If mesotheliomas and bone sarcomas are excluded, the overall response rate is 28.4% with a CR rate of 8.9%. The median duration of complete remission was 29 weeks and the median duration of partial remission was 21 weeks. Toxicities included moderate myelosuppression predominantly granulocytopenia, but mild to moderate thrombocytopenia. Nausea and vomiting was moderately severe, but only during the initial 24 hours. Alopecia was uniform. Mucositis was mild. There was one case of serious cardiac toxicity. Only 2 patients were removed from study because of refusal of further treatment. (no Refs)

11. PULSE VCAD CHEMOTHERAPY: AN INTENSIVE, EFFECTIVE TREATMENT FOR INOPERABLE AND METASTATIC SOLID TUMORS IN CHILDREN AND YOUNG ADULTS (MEETING ABSTRACT)

Wilbur JR, King OY
Children's Cancer Research Institute, San Francisco, CA, 94115
Proc Am Soc Clin Oncol; 1:C-685 1982

Pulse VCAd, an intensive combination of Vincristine 2 mg IV on day 1, Cyclophosphamide 15 mg/kg/d IV x 4 days and Adriamycin 15 mg/m(2)/d x 4 days by IV push or continuous drip on an every four weeks schedule is a highly effective drug combination for achieving complete response (CR) or partial response (PR) in children and young adults with inoperable or metastatic solid tumors including Ewing's sarcoma, soft tissue sarcomas, neuroblastoma and lymphoepithelioma. CR or PR was achieved in 14/15 patients with Ewing's sarcoma, 18/21 patients with soft tissue sarcomas, 1/1 with neuroblastoma, and 2/2 with lymphoepithelioma. Most of the soft tissue sarcoma patients had responses after failing other chemotherapy. Toxicity is significant but manageable. One hundred percent of the patients developed severe pancytopenia, with a 25% risk of fever during severe neutropenia. There have been 2 toxic deaths, one secondary to fungal sepsis, and the other due to an unknown cause in an emaciated patient. Details of therapeutic responses and toxicity will be presented. (no Refs)

12. A ONE-DAY COMBINATION CHEMOTHERAPY (CYVADIC) REGIMEN IN SOFT TISSUE SARCOMAS (MEETING ABSTRACT)

Bernard SA, Capizzi RL, Rudnick SA, Tremont SJ, Raymond RN
The University of North Carolina, Chapel Hill, NC, 27514
Proc Am Soc Clin Oncol; 1:C-659 1982

Cyclophosphamide (CY), vincristine (V), adriamycin (A), and dacarbazine (DTIC) (DIC) is commonly administered over a 5-day period to pts with soft tissue sarcomas. A 1-day treatment regimen consisting of CY, 600 mg/m2, V, 2 mg total dose, A, 40 mg/m2 and DIC, 600 mg/m2 was utilized in 13 pts -8 with metastatic soft tissue sarcoma, 1 pt with an unresectable mass, and 4 pts with mesothelioma. The regimen was repeated every 4 weeks. Two additional pts were treated adjuvantly. The histologies included angiosarcoma (2), fibrosarcoma (2), leiomyosarcoma (4), and malignant fibrous histiocytoma (MFH) (1). There was 1 fibrous histiocytoma and 1 fibrosarcoma in the adjuvantly treated pts. Metastatic sites were liver (4), lung (3), pleura (1), soft tissue and nodes (1). One adjuvant pt had MFH in the pectoral muscle excised, followed by radiation, and then 6 courses of CYVADIC. The other adjuvant pt had a leiomyosarcoma 18 cm in diameter resected from the abdominal wall and then received 3 courses of CYVADIC. The 9 pts with metastatic or locally advanced disease received an average of 4 cycles. All but 1 pt received full doses of CY, A, and DIC throughout their course. Two pts had V reduced because of neuropathy. Platelets were not significantly depressed. Mild nausea and vomiting was seen in all pts. Of the 9 pts 1 achieved a complete remission and was treated for 24 months and remains in remission at 27+ months. Six pts remained stable and 2 pts had progression. Two of the 4 pts with mesothelioma were stable for up to 10 months until they progressed. The 2 adjuvant pts have been followed for 2 1/2-3 years without recurrence. (no Refs)

13. RESULTS OF TREATMENT WITH A MULTIPLE DRUG SCHEDULE (MDS) IN 26 PATIENTS WITH SOFT-TISSUE SARCOMA (MEETING ABSTRACT)

Stuart-Harris R, Wiltshaw E, Harmer C, McKinna A, Coninx S
Royal Marsden Hospital, London, England
Br J Cancer; 44(2):291 1981

Between 1970 and 1980 26 patients with advanced soft-tissue sarcoma were treated with cyclophosphamide (600 mg/m2 max 1 g) 5-fluorouracil (500 mg/m2, max 1 g), Vincristine (1 mg/m2, max 2 mg), actinomycin-D (0.6 mg/m2, max 1 mg) and methotrexate (200 mg). The methotrexate was given as a 24 h infusion and followed by folinic-acid rescue. Treatment was repeated every 28 days. Five patients had local disease, 21 had metastatic or locally recurrent disease. There were 2 complete and 5 partial responses (overall response rate 27%). One complete responder and 3 partial responders have relapsed, average duration of response being 9 months. One complete responder remains disease free more than 8 years after treatment. Two partial responders have been converted to complete remission, one with radiotherapy, one with radiotherapy and surgery. The regime is generally well tolerated, though nausea, vomiting and thinning of the hair may occur. (no Refs)

14. PHASE II TRIAL OF VP-16213 IN DISSEMINATED KAPOSI'S SARCOMA (KS) (MEETING ABSTRACT)

Laubenstein L, Hymes K, Krigel R
New York University Cancer Center, New York, NY, 10016
Proc Am Soc Clin Oncol; 1:C-680 1982

An outbreak of disseminated KS has recently been described in homosexual men. This tumor has displayed a rapidly progressive course with involvement of skin, lymph nodes, gastrointestinal tract, and lungs. Preliminary data has suggested a role for combination chemotherapy consisting of Adriamycin (A), bleomycin (B) and vinblastine (V). Our clinical experience has indicated that there may be a less aggressive form of disseminated KS and that initial combination chemotherapy might not be appropriate for this entity. Single agent chemotherapy with VP-16213 was chosen as first line treatment for patients with apparently indolent disease because of its limited toxicity, broad anti-tumor activity and absence of cross resistance with agents in the ABV regimen. Ten patients with disseminated KS were treated with 27 courses of VP-16213 at a dose of 150 mg/m(2)/d x 3 d, q 4 weeks. Five patients had only skin or nodal disease; five had visceral disease in addition to skin and nodal involvement. Two patients achieved CR (complete response); four PR (partial resonse), two NR (no respose), and two too early to evaluate. Toxicity consisted of leukopenia and alopecia in all patients; stomatitis and parotitis each complicated one course. No infectious complications occurred in association with leukopenia. Both treatment failures have achieved PR's with ABV treatment. (no Refs)

15. CISPLATINUM (DDP) - ADRIAMYCIN (ADR) COMBINATION CHEMOTHERAPY (CT) IN EVALUABLE OSTEOGENIC SARCOMA (OS) (MEETING ABSTRACT)

Rosen G, Caparros B, Nirenberg A, Cacavio A
Memorial Sloan-Kettering Cancer Center, New York, NY, 10021
Proc Am Soc Clin Oncol; 1:C-672 1982

The combination of DDP and ADR was used to treat 20 patients (pts) with evaluable primary and/or metastatic OS. All pts had prior treatment, including 17/20 ADR, 4/20 DDP and ADR (but not in combination), 20/20 high dose methotrexate, and 20/20 the combination of bleomycin, cyclophosphamide and dactinomycin. DDP was given at the lesser dose of 3mg/kg or 120mg/M2. ADR was given at the dose of 30mg/M2 2 hours prior to DDP, and the same dose the following day. DDP was given by IV infusion over a period of 20 minutes after overnight hydration and an IV bolus of mannitol (8gm/M(2)). Pts were hydrated for at least 8 hours following DDP and were also given 20% mannitol at the rate of 35cc/M(2)/hour IV for 6 hours following the DDP infusion. Treatments were repeated every 3 weeks. Twelve pts had evaluable pulmonary metastases, 5 had bone metastases. Toxicity consisted primarily of anemia, thrombocytopenia and leukopenia with nadir blood counts on days 12 to 14. A partial response (PR) was observed in 3/15 pts. A complete response (CR) was observed in 4/20 pts. All 3 PR's were of clinical significance with a greater than 75% decrease in measurable disease. All responses were still ongoing at 1 to 3 months when surgery was carried out in an effort to render pts free of disease. All 4 CR's were confirmed by histologic examination of the resected surgical specimen which failed to reveal any evidence of viable tumor cells. (no Refs)

SURGERY

16. TREATMENT OF MANDIBULAR BONE HAEMANGIOMA BY BIOLOGICAL PLASTIC TAMPONADE IN CHILDREN.

Kolesov AA, Kasparov NN, Dyakov SV, Pershin MA
Dept. Paediatric Stomatology, N. A. Semashko's Moscow Medical Inst. Stomatology, Delegatskaya 20/1, 103473 Moscow, USSR
Acta Chir Plast (Prague); 23(4):202-205 1981

Clinical and roentgenological features, diagnosis, and treatment of five children (4 girls, 1 boy, 8-13 yr old) with mandibular hemangioma (MH) are discussed. Diagnosis in three patients was established from findings obtained by x-ray examination and puncture of the neoplasm. Open surgical biopsy was required for diagnosis of MH, capillary type, in an 8-yr-old girl; intraosseal cavernous type MH occurred in four children. Clinically, an insignificant deformation of mandibula was observed in all children. Roentgenography revealed regions of osteoporosis in the corpus of the mandibular bone in children with cavernous type MH. The regions appeared as circular holes or as a large singular cavity surrounded by several smaller elliptical or circular cavities. Final diagnosis was established following open surgical biopsy. Biological plastic tamponade (BPT) of bone cavities was used for treatment of MH. The course of operation is described. Results of treatment were reexamined 5-14 yr postoperatively. Two to 3 yr postoperatively, rebuilding of the bone that resulted in normal structure or sclerosis was observed where tamponade had been applied and the mandibular corpus had been covered with a flap. Recurrence was observed in a 9-yr-old girl 3-4 yr postoperatively. After repeated surgical treatment, x-ray irradiation was applied in a total dose of 1,200 R. The patient remained under observation. BPT is recommended in treatment of cavernous MH not penetrating the cortical layer of the bone. (8 Refs)

17. SARCOMA OF THE BUTTOCK: A TREND TOWARD LIMB-SAVING RESECTION.

Gerson R, Shiu MH, Hajdu SI
(c/o Shiu) Dept. Surgery, Memorial Sloan Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Surg Oncol; 19(4):238-242 1982

A retrospective comparison was made between soft tissue sarcomas of the buttock treated during two consecutive periods at one institution: (1) 1966-1978, during which almost all tumors were treated by radical buttectomy with limb preservation, often in conjunction with radiation therapy, and (2) 1934-1966, as previously reported by Wanebo et al, in which treatment by hemipelvectomy was frequently offered. Desmoid tumors were excluded. The 5-yr survival rates after curative treatment were almost identical, 40% vs 39%, respectively. Distant metastases were the main cause of death. Very high local recurrence rates were recorded after therapy: 45% vs 39% for the respective periods. Local recurrences seemed prone to occur with large, deeply fixed sarcomas, particularly when inadequate or no radiation therapy had been utilized. These observations point to the need for innovative methods to prevent local tumor recurrence and a trial of adjuvant chemotherapy if long-term cure with limb preservation is to be achieved. (Author abstract) (11 Refs)

18. SURGICAL TREATMENT OF DIFFUSE MESOTHELIOMA OF THE PLEURA: CURATIVE AND PALLIATIVE POSSIBILITIES.

Lohr J, Klippe HJ, Kroeger C

Thoraxchirurgische Abteilung, Krankenhaus Grosshansdorf der LVA-Freie und Hansestadt Hamburg, Wohrendamm 80, D-2070 Grosshansdorf, W. Germany

Prax Klin Pneumol; 35(9):394-399 1981

Diffuse pleural mesothelioma (DPM) was diagnosed in 125 patients (78 men and 47 women, 23-83 yr old) comprising 4.9% of all patients treated for lung cancer. Primary symptoms included hemorrhagic pleural effusion, recurrent pleural effusion, shortness of breath, pain, and coughing. Diagnosis was achieved by cytological examination in 48 cases, transthoracic pleural biopsy in 39 cases, pleural biopsy in 24 cases, thoracotomy in 20 cases, and surgical section in 11 cases. Conservative treatment consisting of cytostatic therapy or radiotherapy was given in 88 cases; 37 patients were treated surgically. The av age was 62.6 yr for patients treated conservatively and 49.8 yr for those treated surgically. Surgical procedures included extended pleuro-pneumonectomy (EPP: 2 cases), parietal pleurectomy (24 cases), en-bloc resection (4 cases), and exploratory thoracotomy in cases of anatomical inoperability (7 cases). Both patients treated by EPP survived at least 1 yr. Three patients survived 2 yr and two survived 3 yr. No patients survived 4 yr. Eighteen patients died within 1 yr. Poor results of surgery were due primarily to a lack of early characteristic symptoms, which led to a low rate of early detection. Both curative and palliative surgery produced up to 3 yr of relatively symptom-free survival and are therefore considered justified in operable patients. (15 Refs) (In GER)

19. THE SURGERY OF DEEP ORBITAL TUMORS.

Flanagan JC

Oculoplastic Service, Wills Eye Hosp., Philadelphia, PA

Trans Pa Acad Ophthalmol Otolaryngol; 35(1):16-23 1982

Surgery for deep orbital tumors is discussed, based on three cases. A 57-yr-old white female presenting with progressive proptosis of the right eye exhibited a mass within the muscle cone upon computed tomography (CT) scan; a lateral Kronlein orbitotomy led to successful removal of the tumor. A palpable mass in the eye of a 30-yr-old white female was diagnosed by CT scan and ultrasound as a benign mixed cell tumor of the lacrimal gland. Complete removal of the tumor was accomplished without preliminary biopsy, to avoid possible recurrence due to tumor seeding of the orbit. A 27-yr-old male who had had enucleation of the left eye at 2 yr of age and irradiation of the right eye for retinoblastoma presented with a mass in the upper nasal quadrant of the orbit. The tumor was removed within a pseudocapsule by gentle traction with a cryostat; pathologically it was a leiomyosarcoma, an extremely rare orbital tumor. Tumors of the deep orbital space are often benign, and should be managed with minimal surgical intervention unless a threat exists to life, vision, or normal ocular function. (no Refs)

MULTIMODAL THERAPY

20. PREOPERATIVE CHEMOTHERAPY FOR OSTEOSARCOMA (MEETING ABSTRACT)

Benjamin RS, Chuang VP, Wallace S, Murray J, Ayalla A, Papadopoulos N

University of Texas System Cancer Center, Houston, TX, 77030

Proc Am Soc Clin Oncol; 1:C-675 1982

Eighteen patients with operable osteosarcoma were treated with preoperative chemotherapy consisting of adriamycin, 90 mg/m2, by continuous 96-hr intravenous infusion starting on day 1, followed by cis-platinum, 120 mg/m2, by 2-hr intraarterial infusion on day 6, in an attempt to increase the chances of limb salvage and better define prognosis based on the histology of the resected specimen. Patients with greater than or equal to 80% necrosis continued on adriamycin and cis-platinum intravenously until nephrotoxicity of neurotoxicity occurred and then on adriamycin and DTIC (dacarbazine), 1 g/m2, by 96-hr infusion. Patients with less than 80% necrosis were treated with methotrexate, 8 g/m2, with citrovorum factor rescue q wk x 8, q 2 wk x 8, and q 4 wk x 8. Four patients were initially considered candidates for limb-salvage surgery, and 5 became candidates due to their response to chemotherapy. Inappropriate placement of the biopsy scar prohibited limb salvage in 4 patients. Seventeen of 18 patients had clinical evidence of response to chemotherapy. Of 14 patients who have undergone resection or amputation, total tumor necrosis was observed in 5 (36%), 95-99% necrosis in 4 (29%), 80% necrosis in 1 (7%), and greater than or equal to 60% necrosis in 4 (29%). Three of the 4 patients with less than or equal to 60% necrosis have relapsed at 6.1, 7.0, and 11.5 mo compared with none of the 10 with greater than or equal to 80% necrosis after a median follow-up of 9.8 mo. One patient has died at 8.9 mo, and the rest are alive with median follow-up of 7.4. (no Refs)

21. METASTATECTOMY FOLLOWED BY MULTI-AGENT INTENSIVE CHEMOTHERAPY (CT) IN OSTEOSARCOMA (MEETING ABSTRACT)

Levine AS, Appelbaum FR, Echelberger C, Wesley R, Johnston M, Rosenberg S

National Cancer Institute, Bethesda, MD, 20205

Proc Am Soc Clin Oncol; 1:C-716 1982

To assess the utility of adjuvant multi-agent intensive CT following total resection of pulmonary metastases (PM) in osteosarcoma, 24 consecutive patients (pts) with PM were enrolled in a clinical trial (1977-1981). Of the 24 pts, 19 had received prior high-dose methotrexate (HD-MTX) as an adjuvant to amputation, and 5/19 had 2-3 discrete episodes of PM treated surgically prior to the episode which made them eligible for the present study. An additional 5 pts presented with synchronous PM and had received no prior CT. Of the 24 pts, 13 had multiple bilateral and 11 had solitary PM. CT was initiated within two weeks following metastatectomy, consisting of one course of HD-MTX, cytoxan (40 mg/kg/day x 3), adriamycin (35 mg/M(2)/day x 6), L-PAM (L-phenylalanine mustard) (0.4 mg/kg/day x 2), DTIC (dacarbazine) (250 mg/M(2)/day x 5), and cisplatinum (20 mg/M(2)/day x 5). Maintenance cycles (24) were planned every three weeks consisting of HD-MTX and adriamycin (70 mg/M(2)/cycle to 560 mg/M(2)). Minimum and maximum follow-up after metastatectomy are 6 and 60 months, and actuarial continuous disease-free survival at 3 years is 44% +/-20%. These results were compared with those of Martini, et al Burgers, et al, and Telander, et al, who performed metastatectomy without CT. Actuarial continuous disease-free survival at 3 years was approximately 25% in these series. (3 Refs)

22. CNS PROPHYLAXIS (RT + IT MTX) IN THE COMBINED TREATMENT OF CHILDHOOD EMBRYONAL RHABDOMYOSARCOMA (ERMSA) PRESENTING WITH MENINGEAL EXTENSION (MEETING ABSTRACT)

Lombardi F, Gasparini M, Bajetta E, Gianni C
Istituto Nazionale Tumori, Milan 20133, Italy
Proc Am Soc Clin Oncol; 1:C-683 1982

From 1978 to 1980, 11 consecutive children presenting with head and neck ERMSA with meningeal extension were treated according to a prospective treatment protocol. The age ranged from 1.4 to 15 years (median 4.6). ERMSA arose in the nasopharynx (4), middle ear (3), paranasal sinus (3), pterygopalatine fossa (1). Clinical signs of meningeal extension were as follows: erosion of base of skull (10), cranial nerve palsy (7), intracranial hypertension (3). In no case malignant cells in the cerebrospinal fluid were detected. Metastases were present in cervical nodes in 3 and in lungs in 3. Treatment started with chemotherapy (ADM (adriamycin) 25 mg/m2 + VCR (vincristine) 1.4 mg/m2 + CTX (cyclophosphamide) 600 mg/m2 on day 1 and 15, DTIC (dacarbazin) 250 mg/m2 on day 1-2-3, rest period from day 16 to 30). RT (radiotherapy) was given after 1-2 mo from the beginning of chemotherapy. Fields included skull in continuity with the primary tumor site. Thirty Gy to the entire skull were delivered in 3-4 wk with boost (up to 55-60 Gy) to the primary tumor. It MTX (methotrexate) (10 mg/m(2)) was administered q 2 wk until the end of RT and then every 2 mo. Chemotherapy was continued for 2 years (maximal dose of ADM 500 mg/m(2)). CR (complete response) was achieved in 10/11 and 7 (64%) are surviving continously relapse-free after a median follow-up of 32+ mo (range 16+ to 44+ mo). Reasons for relapse in 3 CRs consisted of occurrence of lung metastases (1), local recurrence (1), and meningeal dissemination (1). (no Refs)

23. LIMB SALVAGE BY MULTIMODALITY MANAGEMENT OF LOCALLY RECURRENT SOFT TISSUE SARCOMA (MEETING ABSTRACT)

Giuliano AE, Eilber FR, Morton DL
Division of Surgical Oncology, University of California at Los Angeles, School of Medicine, Los Angeles, CA, 90024
Proc Am Soc Clin Oncol; 1:C-698 1982

Most authorities advocate amputation as treatment for locally recurrent soft tissue sarcomas. However, recent experience with multimodality treatment of primary soft tissue sarcomas suggests that limb salvage procedures achieve similar local control and improve the quality of life for these patients. The clinical course of 38 patients with various types and grades of locally recurrent soft tissue sarcoma and no evidence of distant metastases were reviewed to determine optimum management and clinical course. Twenty-five patients had more than one local recurrence. The most common site for recurrence was the extremity. Sixteen patients received preoperative intraarterial Adriamycin (30 mg/day x 3 days) and radiation therapy (3500 R/10 days) followed by radical resection of the recurrence and the previous operative field. Tumor-free margins were confirmed microscopically. There were no subsequent recurrences in this group. Five patients received no preoperative therapy and resection was incomplete because of proximity to vital structures. In these patients, combination radiation and chemotherapy did not prevent tumor progression. The remaining patients had either resection alone or combined with radiation and/or chemotherapy. Life table analysis showed a high 5-year survival of 66% (81% for those whose lesions could be completely resected). Amputation was necessary in only 3 patients. (no Refs)

24. ADRIAMYCIN (ADR), CYTOXAN (CY) AND WHOLE BODY HYPERTHERMIA (WBH) FOR SOFT TISSUE SARCOMA (STS) (MEETING ABSTRACT)

Gerad H, Van Echo DA, Ostrow S, Whitacre MY, Aisner J, Wiernik PH
Baltimore Cancer Research Center, Baltimore, MD, 21201
Proc Am Soc Clin Oncol; 1:C-679 1982

Ten patients (pts) (median age 47.5 yrs; range 35-65 yrs) with STS were treated with ADR 45 mg/m2 and CY 1000 mg/m2 in combination with WBH to assess therapeutic efficacy and toxicity. All pts are evaluable for toxicity and response. Pts first received one euthermic chemotherapy course for baseline pharmacokinetics. All subsequent chemotherapy courses were combined with WBH 41.8-42.6 C x 2 hours. WBH was induced using water perfused nylon mesh body suits or blankets. ADR was given as a bolus at 41.8 C. CY was given as a 1 hour infusion starting 4 hours from the end of WBH. Pts were retreated when hematologic recovery occurred, usually every 28 days. Thirty WBH treatments (mean 3.0/pt range 1-6) resulted in 1 surgically restaged complete response (leiomyosarcoma) for 390 days, 2 partial responses (PR; both liposarcomas), 412 and 105+ days, 1 objective response (synovial sarcoma), 560+ days, and 1 disease stabilization (hemangiosarcoma), 259+ days. After starting therapy, the mean survival of the 5 NR's (no response) (rhabdomyosarcoma, fibrosarcoma, clear cell carcinoma, pleural and abdominal mesothelioma) was 193 days (range 92-289). One PR pt died of heart failure after receiving 405 mg/m2 total dose of ADR. Nonhematologic toxicity included: nausea and vomiting 90% of pts, diarrhea 60%, fatigue 100%, herpes 80%, mild burns 40%, myalgias 30%, neuropathy 30%, post-WBH fever 50%, and UTI (urinary tract infection) 30%. There were no treatment related deaths or CNS complications. (no Refs)

25. OUTCOME OF PATIENTS (PTS) WHO DEVELOP PULMONARY (PUL) METASTATIC (MET) DISEASE AFTER ADJUVANT (ADJ) CHEMOTHERAPY (CHEMO) FOR OSTEOSARCOMA (OS) (MEETING ABSTRACT)

Coorin AM, Delorey MJ, Williamson KR, Levy R, Tapper D, Link M, Abelson HT
Sidney Farber Cancer Institute, Boston, MA, 02115
Proc Am Soc Clin Oncol; 1:C-717 1982

Since 1972, 93 pts with non-met primary os were treated with adj chemo. Fifty-six pts remain continually with no evidence of disease (NED) for 4+ -108+ months (mo), median (med) 33 mo. Twenty-nine of 37 pts relapsed initially in lung only. Nine of 29 pts relapsed less than 12 mo from diagnosis; 20/29 pts relapsed at 12 mo or greater from diagnosis. Twenty-three of 29 had thoracotomies and 18/23 were rendered surgically (surg) NED. The 6 pts not operated upon and the 5 pts who never made NED died. Six of 18 pts had no further relapses and continue with NED (med 37 mo). Of the 6 pts who relapsed two times, 3 are NED (med 33 mo). Of the 4 pts who relapsed three times, 3 are NED (med 1 mo). Two pts relapsed a fourth time and both died. All 12 pts currently NED had surgery. In addition, some pts had chemo and/or pul radiation. Eleven of 12 of the concurrently NED pts had their initial pul relapse at 12 mo or greater from diagnosis. Pts who had not made NED after a second relapse frequently had extra pul mets. (no Refs)

CASE REPORTS

26. AN ULTRASTRUCTURAL STUDY OF ANGIOMATOID FIBROUS HISTIOCYTOMA.

Sun CC, Toker C, Breitenecker R
Dept. Pathology, Univ. Maryland Hosp., 22 South Greene St., Baltimore, MD, 21201
Cancer; 49(10):2103-2111 1982

We studied the electron microscopy of two tumors which clinically and histologically conformed to what has been described as angiomatoid fibrous histiocytoma, a tumor thought to be of fibrohistiocytic origin. The ultrastructure of one tumor was that of a cellular angioma and the second tumor a vascular lesion with fibroblasts and histiocyte-like mononuclear cells. Our findings suggest that angiomatoid fibrous histiocytomas are basically vascular tumors with fibroblasts and other cells as secondary participants in some lesions. The behavior of angiomatoid fibrous histiocytoma cannot be predicted from histology. Our findings of different ultrastructural components in histologically non-separable tumors lead to a question whether different composition is correlated with different biological behavior of these tumors. Further studies of similar cases are required if tumor morphology is to be correlated with clinical behavior. (Author abstract) (7 Refs)

27. CHORDOID SARCOMA OF THE HAND. A CASE REPORT.

Jacobs GH, Berson SD, Skikne MI, Rippey JJ, Jacobson JN
Dept. Histopathology, Sch. Pathology, Univ. Witwatersrand, South African Inst. Medical Res., Johannesburg, South Africa
S Afr Med J; 61(17):630-633 1982

Chordoid sarcoma is a rare, distinctive neoplasm that usually occurs in the soft tissue of the extremities. Despite its striking histological resemblance to chordoma at light microscopic level, both clinical and ultrastructural differences exist and chordoid sarcoma may in fact be related to tendosynovial sarcoma. Previous reports of extraskeletal myxoid chondrosarcoma, however, show that this tumor bears a striking light microscopic and ultrastructural similarity to chordoid sarcoma, which suggests that the latter may be a variant of extraskeletal myxoid chondrosarcoma. In this report a further case of chordoid sarcoma is presented; clinical, radiological, histological and ultramicroscopic features support a tendosynovial origin. (Author abstract) (4 Refs)

28. A CASE OF BIZARRE LEIOMYOBLASTOMA OF THE ILEUM ASSOCIATED WITH LESER-TRELAT SYNDROME.

Ishihara K, Horitani K, Kinochi J, Kano S, Hoshika K, Hisamoto N, Fushimi A, Uchida J, Kihara T
Dept. Medicine, Div. Gastroenterology, Kawasaki Medical Sch., Kurashiki, Japan
I To Cho; 16(10):1091-1097 1981

A rare case of a malignant tumor of the cecum which was associated with a skin condition consistent with Leser-Trelat syndrome occurred in a 62-yr-old man presenting with bloody stool periodically for greater than 2 yr. Four mo prior to diagnosis of the tumor, the patient underwent gastric surgery for a suspected duodenal ulcer. Postoperatively, the patient continued to have tarry stool, general malaise, and vomiting. Gross examination of the patient showed multiple flecks and keratoses of the face. Barium meal study of the small intestine showed a diverticulum of the mucosa of the ileum, and compression study of the ileum revealed small niches communicating with the diverticulum-like shadow. About three fourths of the tumor and the adjacent intestine were resected. The tumor contained a large cavity which communicated with the lumen of the small intestine. Thus, this case was diagnosed bizarre leiomyoblastoma. Metastasis and peritoneal spread was also evident at surgery. Eight cases of leiomyoblastoma of the small intestine have been reported in Japan; 5/8 were diagnosed malignant tumors. The origin of the tumor, the presence of multiple seborrheic keratoses, and the presence of the Meckel-like diverticulum in this case were discussed. (21 Refs) (In JPN)

29. DISSEMINATED PERITONEAL LEIOMYOMATOSIS. THE PATHOLOGICAL AND ULTRASTRUCTURAL ASPECTS OF A CASE ASSOCIATED WITH A CAVERNOUS HEMANGIOMA OF THE LIVER.

Frappart L, Berger G, Palayer C, Vernevaut Y, Spay GH, Mallet-Guy Y, Feroldi J
Laboratoire d'Anatomie Pathologique, Domaine Rockefeller, 8, avenue Rockefeller, 69373 Lyon, France
Arch Anat Cytol Pathol; 30(2):117-120 1982

A 39-yr-old woman hospitalized for pelvic compression underwent total hysterectomy. At surgery, peritoneal examination revealed an intrahepatic nodule in the right lobe. The nodule was not biopsied. Based on pathological examination of two nodules from the uterine specimen, a diagnosis of disseminated peritoneal leiomyomatosis (DPL) was established. The DPL was associated with a uterus with a polyfibroleiomyoma and with an intrahepatic nodule. The hepatic nodule was considered very unusual in the context of DPL and an hepatic assessment based on scintigraphy, arteriography, and echography was more indicative of a metastasis of the right lobe of the liver. During a second surgical intervention, right hepatectomy and ablation of a peritoneal nodule were carried out. The persistance of multiple, fine, hard peritoneal granulations was also noted. The macroscopic appearance of the hepatic tumor corresponded to a cavernous hemangioma remodeled by a necrotic phenomena. Pathological examination of the surgical specimen confirmed the diagnosis. The postsurgical course was marked by a temporary fall in prothrombin levels and by mixed jaundice which improved. At follow-up the patient's status was satisfactory. The evolution of DPL is always favorable whether adnexectomy is or is not associated with hysterectomy. (23 Refs) (In FRE)

30. COMPUTED TOMOGRAPHY - GUIDED REMOVAL OF AN OSTEOID OSTEOMA: A CASE REPORT.

Levy JM, Hubbard JO, Crowe JK
Dept. Diagnostic Radiology, Scottsdale Memorial Hosp., 7400 E. Osborn Road, Scottsdale, AZ, 85251
Cardiovasc Intervent Radiol; 5(1):14-15 1982

The case of a 15-yr-old male with an osteoid osteoma nidus of the left femur that was removed under computed tomography (CT) scan guidance is presented. CT-guided removal represents a better procedure than en bloc resection for osteoid osteoma, due to decreased operative time, better post-operative course, and relative assurance that the nidus has been removed. Additionally, the procedure does not produce the large bony defect which usually results from en bloc resection. (7 Refs)

31. A CASE STUDY OF AN ADAMANTINOMA OF THE TIBIA. AN ULTRASTRUCTURAL EXAMINATION AND REVIEW OF THE LITERATURE.

Scheiner C, Monges G, Lebreuil G, Aubrespy P, Garbe L

Laboratoire d'Anatomie Pathologique, Hopital Nord, Chemin Bourrely, 13015 Marseille, France

Arch Anat Cytol Pathol; 30(2):99-108 1982

A rare case of adamantinoma of the tibia in a 69-yr-old woman is reviewed. The patient had a tumor on the anterior face of the tibia since childhood. For 2 mo prior to presentation the tumor had increased rapidly in volume. Biopsy revealed a soft, white tumor which was fibrous in certain areas. Microscopic examination demonstrated an abundant fibrous stroma which was poorly vascularized. Pathological examination provided a diagnosis of adamantinoma of the tibia. The limb was amputated, and 3.5 yr later the patient was in excellent general health without any signs of recurrence or metastases. Only 150 cases of adamantinomas of the long bones have been reported, and men were more often affected than women. After a certain latency period, the tumor manifests itself by a symptomatology generally represented by the growth of a tumor and the sensation of a painful swelling. Fractures can sometimes reveal the tumor, and trauma can often be uncovered in the patient's history. Radiographic interpretation can incorrectly attribute the lucency to fibrous dysplasia. Histological examination reveals a polymorphic tumor which may be reminiscent of metastases of adenocarcinoma, mandibular adamantinomas or synovial sarcomas. Wide surgical excision is the treatment of choice. (39 Refs) (In FRE)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

32. IMMUNOSUPPRESSION SYNDROME IN HOMOSEXUAL MEN. AN EPIDEMIOLOGICAL INVESTIGATION FROM THE CANCER RESEARCH INSTITUTE IN ARHUS.

Biggar RJ, Melbye M, Ebbesen P, Kerzel Andersen H, Vestergaard BF

NCI, Bethesda, MD

Ugeskr Laeger; 144(11):777-780 1982

A sudden increase in the incidence of immunosuppression syndrome with clinically highly malignant Kaposi's sarcoma and recurrent infections in homosexual men in the United States suggests repeated infections with cytomegalovirus. The sniffing of amyl nitrite, was found to be mutagenic in Ames' test, and possible to be a pathogenetic factor. An epidemiological study of 300 homosexual men (16-57-yr-old) in Arhus and Copenhagen revealed that 1/3-1/2 of the subjects used nitrites. Cytomegalovirus in sperm was found in 12% of all cases, ie, somewhat more frequently than in a historical control. (26 Refs) (In DAN)

SELECTED PRE-CLINICAL STUDIES

33. IMMUNOMODULATION BY IFN-CONJUGATED MONOCLONAL ANTIBODY TO HUMAN OSTEOGENIC SARCOMA (MEETING ABSTRACT)

Baldwin RW, Flannery GR, Pelham JM, Gray JD

Cancer Research Campaign Laboratories, University of Nottingham, University Park, Nottingham NG7 2RD, England

Proc Am Assoc Cancer Res; 23:1003 1982

Purified human lymphoblastoid interferon-alpha (IFN-alpha) has been coupled covalently, using N-succinimidyl 3-(2-pyridyldithio) proprionate (SPDP), to a mouse monoclonal antibody raised against the human osteogenic sarcoma cell line 791T. This antibody has been described elsewhere and binds specifically to cells of the immunizing tumor and to a number of other osteogenic sarcoma cell lines. The purified conjugate retains both antibody activity and IFN activity: binding to 791T cells can be shown in competitive binding assays using fluorescent-labelled antibody and the Fluorescence Activated Cell Sorter (FACS IV), and human peripheral blood lymphocyte-mediated lysis of 791T cells and the erythroleukemic cell line K562, is significantly enhanced after 1 hr incubation with effector cells. The antibody has been shown to localize in 791T xenografts in immunodeficient mice. The conjugate has been tested in an in vitro model system: in the presence of IFN-antibody conjugate bound to 791T cells, human NK cells exhibit significantly enhanced killing of a second, radiolabelled target (K562). Pre-incubation of mixtures of IFN and antibody with 791T cells failed to produce NK cell stimulation. This reagent represents a novel and potentially effective therapeutic tool which may allow specific targetting of IFN to the tumor site in vivo and subsequent activation of tumor-infiltrating NK cells. (1 Ref)

34. GROWTH AND CHARACTERIZATION OF CHILDHOOD RHABDOMYOSARCOMAS AS XENOGRAFTS.

Houghton JA, Houghton PJ, Webber BL

(c/o Houghton) Div. Biochemical and Clinical Pharmacology, St. Jude Children's Res. Hosp., 332 North Lauderdale, Memphis, TN, 38101

JNCI; 68(3):437-443 1982

Eleven surgical specimens of childhood rhabdomyosarcoma (RMS), 2 bone marrow samples, and cells from ascitic fluid from 1 patient were implanted sc into immune-deprived inbred CBA/CaJ mice. From these, seven lines of RMS were obtained as xenografts, each retaining the histologic characteristics of the tumor of origin and human lactate dehydrogenase isozymes; these represented 6 of the 11 surgical specimens, whereas one line originated from the transplanted cells from ascitic fluid. It was concluded that childhood RMS has a fairly high frequency of heterotransplantability in this system and that such a laboratory model may prove useful in the development of new therapeutic regimens in this disease. (Author abstract) (33 Refs)

35. HOST FACTORS IN THE VARIABLE CHEMOTHERAPEUTIC RESPONSE OF ADVANCED RIDGWAY OSTEOGENIC SARCOMA (ROS) (MEETING ABSTRACT)

Nelson JA, Hokanson JA, Jenkins VK

Department of Experimental Pediatrics, University of Texas M. D. Anderson Hospital and Tumor Institute, Houston, TX, 77030

Proc Am Assoc Cancer Res; 23:879 1982

Marked variability has been observed in the response of advanced ROS to a number of antitumor agents. Although tumor heterogeneity may account for this variability, little attention has been directed toward the possible contribution of host factors to the variable response. We evaluated the role of the host by implanting the tumor bilaterally in inbred AKR mice. If the host plays a major role in the variable chemotherapeutic response, significantly less variance should be observed from tumors within animals than between tumors in different animals. LD10 doses of vincristine or L-phenylalanine mustard (L-PAM) were administered 17-23 days after tumor implantation when the tumor size was 0.2 to 1.5 g. Tumor size was monitored at least 3x weekly by caliper measurements of the subcutaneous mass. Quantal responses (complete regressions-CR, and cures) were evaluated by the binomial distribution. Graded responses were evaluated by the Kruskal-Wallis procedure for nonparametric analysis of variance. The within animal quantal response (CR) to vincristine was greater than the expected value if the tumor responded randomly; however, this was not the case for the cures observed with L-PAM. Graded responses suggested a role for the host in the variable responses to both drugs. In spite of this evidence for host contribution to the variance, selected animals were observed to demonstrate marked variability in response. Thus, this animal model serves to objectively demonstrate the heterogeneity between seemingly identical tumors and inbred hosts with regard to antitumor drug response. (1 Ref)

REVIEWS

36. CURRENT CONTROVERSIES IN ONCOLOGY: OSTEOSARCOMA.

Abelson HT, Goorin AM

Sidney Farber Cancer Inst., Harvard Medical Sch., Boston, MA

Surg Rounds; 5(5):44-46,48,55 1982

Prior to 1972, amputation, or disarticulation and radiation therapy were the only treatments for osteosarcoma. Approximately 80% of treated patients died within 2 yr of diagnosis as a result of pulmonary metastases. In the early 1970's, it was shown that Adriamycin and high-dose methotrexate with leucovorin rescue was effective in treating overt metastatic pulmonary lesions. In the last decade a number of different drug combinations have produced 2-yr, disease-free survival in 40-60% of patients, an apparent 2-to 3-fold improvement over prior treatment attempts. However, there is still controversy as to whether or not (or to what extent) the postoperative adjuvant chemotherapy has contributed to this change. For example, a recent clinical trial revealed no significant difference in disease-free survival between patients given postoperative chemotherapy compared with those given none. In addition, there is some question of the relative effectiveness of single- vs multiple-drug combinations and which drugs have overlapping effects in the latter treatment mode. Other factors which must be considered in analyzing and comparing results between trials and which contribute to the controversy include the following: computed tomography vs linear tomography or chest x-ray for identifying pulmonary lesions, location and size of the tumor, histopathology, age and sex of the patients. Besides the controversy of adjuvant chemotherapy vs no chemotherapy in the management of osteosarcoma, there are other questions to be answered, eg what is the proper role for limb-sparing operation vs amputation or disarticulation, and what is the best approach to patients with overt pulmonary metastatic disease? (10 Refs)

☆ U. S. GOVERNMENT PRINTING OFFICE : 1982—361-847/126

AUTHOR INDEX WITH CITATION NUMBERS

Abelson HT 25
Abelson HT 36
Aisner J 24
Al-Jabi M 2
Appelbaum FR 21
Armstrong D 3
Aubrespy P 31
Ayalla A 20
Bajetta E 22
Baker LH 10
Baldwin RW 33
Benjamin RS 20
Berger G 29
Bernard SA 12
Berson SD 27
Biggar RJ 32
Bodo G 9
Breitenecker R 26
Bundtzen JL 7
Cacavio A 15
Cantin R 2
Caparros B 15
Caparros B 5
Capizzi RL 12
Caravelli JF 5
Chuang VP 20
Coninx S 13
Coorin AM 25
Crowe JK 30
Delorey MJ 25
Dyakov SV 16
Ebbesen P 32
Echelberger C 21
Eilber FR 23
Feroldi J 29
Flanagan JC 19
Flannery GR 33
Flener R 9
Fletcher WS 10
Foulkes M 6
Frappart L 29
Fushimi A 28
Garbe L 31
Gasparini M 22
Gerad H 24
Gerson R 17
Gianni C 22
Gilman PA 4
Giuliano AE 23
Glaubiger DL 4
Gold J 3
Goorin AM 36
Gray JD 33
Hajdu SI 17
Hajdu SI 8
Hansen MR 4
Harmer C 13
Heelan RT 5
Hisamoto N 28
Hokanson JA 35
Horitani K 28
Hoshika K 28
Houghton JA 34
Houghton PJ 34
Hubbard JO 30
Huvos AG 5
Hymes K 14
Ishihara K 28
Jacobs GH 27
Jacobson JN 27
Jenkins VK 35
Johnston M 21
Kano S 28
Kasparov NN 16
Kerzel Andersen 32
Kihara T 28
King OY 11
Kinochi J 28
Klippe HJ 18
Kolesov AA 16
Kotz R 9
Koziner B 3
Krigel R 14
Kris M 3
Kroeger C 18
Krown S 3
Laubenstein L 14
Lebreuil G 31
Levine AS 21
Levy JM 30
Levy R 25
Link M 25
Lohr J 18
Lombardi F 22
Makai F 1
Mallet-Guy Y 29
Massoni EA 8
McCaughey WT 2
McKeen EA 4
McKinna A 13
Melbye M 32
Monges G 31
Morton DL 23
Murray J 20
Musumeci R 1
Myskowski P 3
Nelson JA 35
Nirenberg A 15
Norback DH 7
Ochoa M 3
Ostrow S 24
Palayer C 29
Palmer N 6
Papadopoulos N 20
Pelham JM 33
Pershin MA 16
Pinsky C 3
Plattner E 9
Ramach W 9
Raymond RN 12
Rippey JJ 27
Rivkin SE 10
Rosen G 15
Rosen G 5
Rosenberg S 21
Rudnick SA 12
Sachs N 6
Safai B 3
Saiki JH 10
Scheiner C 31
Shahbender S 10
Sherlock P 3
Shiu MH 17
Skikne MI 27
Smith J 5
Spay GH 29
Stuart-Harris R 13
Sun CC 26
Tallroth K 1
Tapper D 25
Toker C 26
Tremont SJ 12
Uchida J 28
Urmacher C 3
Urmacher C 5
Van Echo DA 24
Vernevaut Y 29
Vestergaard BF 32
Wallace S 20
Webber BL 34
Wesley R 21
Whitacre MY 24
Wiernik PH 24
Wilbur JR 11
Williamson KR 25
Wiltshaw E 13

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S.MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT 12/82/10

NCI/ICRDB/CT12 82/10

PB82-938710

ICRDB CANCERGRAM

DATA BANK

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

NOV 4 1982

SERIES CT12 No. 82/10

OCTOBER, 1982

U. S. GOVT. PUBS.
DEPOSITORY 376

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy ***If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:***

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

In this issue:

- **DIAGNOSIS** 1-23
- **CHEMOTHERAPY** 24-27
- **SURGERY** 28
- **MULTIMODAL THERAPY** 29
- **CASE REPORTS** 30-32
- **SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY** 33-37
- **SELECTED PRE-CLINICAL STUDIES** 38-39

DIAGNOSIS

1. POSTRADIATION SARCOMA OF BONE: THE MAYO CLINIC EXPERIENCE (MEETING ABSTRACT)

Weatherby RP, Dahlin DC, Ivins JC
Department of Surgical Pathology, Mayo Clinic and Mayo Foundation, Rochester, MN, 55901
Am J Clin Pathol; 77(2):237 1982

The clinical and pathologic features in 78 cases of sarcoma arising in irradiated bones are reviewed. Radiotherapy had been administered for a wide variety of conditions, both neoplastic and nonneoplastic, in these patients. The latent period between irradiation and the development of sarcoma ranged from 2.75 to 55 years, averaging 14.3 years. Ninety per cent of the postradiation tumors were osteosarcomas or fibrosarcomas; chondrosarcoma, malignant (fibrous) histiocytoma, malignant lymphoma of bone, Ewing's tumor, and metastasizing chondroblastoma also occurred. Radical surgery, when feasible, is the treatment of choice for the sarcoma. The location of the sarcoma is one of the most important factors influencing survival: about 30% of patients with sarcomas of the extremities or craniofacial bones survived 5 years without recurrence, whereas there were no disease-free survivors among patients with sarcomas of the spine, pelvis, or shoulder girdle. Forty patients developed sarcomas after irradiation of benign bone lesions, most commonly giant cell tumor and fibrous dysplasia. (no Refs)

HE 20.3173/2:

2. OSTEOBLASTIC MESENCHYMAL CHONDROID SARCOMA: A CLINICOPATHOLOGIC ANALYSIS WITH EXPLANATION OF HISTOGENESIS (MEETING ABSTRACT)

Dabska M, Huvos AG

Department of Pathology, Memorial Hospital for Cancer and Allied Diseases, New York, NY

71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

It has been almost a quarter of a century that this rare, still poorly understood and insufficiently studied, cartilage neoplasm was described. Based on 19 cases representing 26 per cent of chondrosarcoma patients under the age of 21 years, this study found equal sex distribution with the youngest patient being a 6-year-old boy. Twelve lesions occurred between the ages of 16 and 21 years. All but one of the tumors arose in the skeleton with almost half of them involving the lower extremity. Pain was the cardinal symptom lasting from 1 month to a year in duration. Survival analysis revealed a 46 per cent 2-year and 35 per cent 5-year survival rate, whereas at 10 years only 20 per cent of the patients were still alive. This study attempts to establish the likeliest evolutionary pathway of neoplastic cell differentiation and traces the origin of this tumor to a neoplastic caricature of embryonal endochondral osteogenesis. (no Refs)

3. OSTEOSARCOMAS OF EXTRAGNATHIC CRANIOFACIAL BONES (MEETING ABSTRACT)

Nora FE, Unni KK, Pritchard DJ

Departments of Surgical Pathology and Orthopedics, Mayo Clinic and Mayo Foundation, Rochester, MN

71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

Osteosarcomas of extragnathic craniofacial bones are rare lesions that constitute fewer than 0.5 per cent of all osteosarcomas. Our series of 20 patients (12 male and eight female) ranged in age from 6 to 77 years, and 10 patients were in the third or fourth decade of life. Five patients had predisposing conditions: Paget's disease of bone in three and prior regional irradiation in two. Most of these tumors were high grade lesions, and most were extensive when treated. There were 10 osteoblastic, six fibroblastic, and one small cell variants; two lesions had features resembling malignant fibrous histiocytoma. One tumor, originally interpreted as grade 4 osteosarcoma, was unavailable for variant classification. Surgical removal, irradiation, and chemotherapy were used alone or in combination. Regardless of the method of treatment, the prognosis was very poor. Only two patients survived 5 years, and one of these patients died of her disease at 65 months. Almost half of our patients died within 1 year after diagnosis. Our one long-term survivor (12 years) underwent a radical surgical procedure when her tumor was small; this was the only patient in our series who had a low grade lesion. The prognosis is more favorable in patients with osteosarcoma of the maxilla and mandible than in those with osteosarcomas of other sites. Some recent publications have failed to segregate these tumors from other craniofacial osteosarcomas. Because of the characteristics described, osteosarcoma of extragnathic craniofacial bones must be considered a separate disease. (no Refs)

4. CHONDROSARCOMAS WITH ANAPLASTIC MESENCHYMAL COMPONENTS: 'DEDIFFERENTIATED LOW GRADE CHONDROSARCOMAS' (MEETING ABSTRACT)

DiMaio S, Ayala AG

M. D. Anderson Hospital and Tumor Institute, Houston, TX

71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

The clinical-pathological data from 14 patients with chondrosarcomas with anaplastic mesenchymal components were reviewed. These patients comprised 6 per cent of all patients with chondrosarcomas seen during a 33-year period. In all of these patients, chondroid areas in the tumors were of borderline or low grade malignancy. The histologic pattern of the anaplastic mesenchymal components in the primary tumors were classified as malignant fibrous histiocytomas (seven), fibrosarcoma (six), and fibrosarcoma with rhabdomyosarcomatous differentiation (one). None had areas that were acceptable as osteosarcoma. There was a predilection for the pelvis with seven patients. Other sites included two each in humerus and ribs, respectively, and one each in femur, scapula, and fibula. The duration of symptoms ranged from 6 weeks to 10 years with the majority of patients (12 to 14) presenting symptoms for less than 1 year. Six patients underwent major amputation, three received no treatment, three underwent local resection, one received chemotherapy which usually included a combination of Cytoxan, Adriamycin, Vincristine, and DTIC (dacarbazine) an one patient received intraarterial infusion with cis-platinum. None of our patients survived more than 25 months, and the majority developed local recurrence or metastatic disease within 1 year from the time of presentation. (no Refs)

5. SOFT-TISSUE SARCOMA OF THE TRUNK IN CHILDHOOD. RESULTS OF THE INTERGROUP RHABDOMYOSARCOMA STUDY.

Raney RB, Ragab AH, Ruymann FB, Lindberg RD, Hays DM, Gehan EA, Soule EH

Div. Oncology, Children's Hosp. Philadelphia, 34th St. and Civic Center Blvd., Philadelphia, PA, 19104

Cancer; 49(12):2612-2616 1982

Disease-free survival data were obtained on 30 children with soft-tissue sarcoma of the trunk. The children were clinically grouped and treated in accord with the IRS protocol from November 1972 through December 1976. Histologically, 40% of the tumors were alveolar rhabdomyosarcoma (RMS), 20% were embryonal RMS, 20% were extraosseous Ewing's sarcoma, 17% were undifferentiated sarcoma, and 3% were pleomorphic RMS. In 14 patients with primary tumors of the chest wall, the male-to-female (M:F) ratio was 3:11, and the median age of 12.5 yr. Five of the 10 patients (50%) with localized tumor (Groups I-III) were disease-free at a median of 4.7 yr after diagnosis; 2 died of locally recurrent tumor, 2 died of metastases to lungs or bones, and 1 died of intracranial hemorrhage. None of the four with chest wall tumors and distant metastases (Group IV) survived. In 10 patients with localized paraspinal primary tumors, the M:F ratio was 8:2 and the median age was 3.5 yr. None had metastases. Seven of 10 (70%) were disease-free at a median of 4.7 yr after diagnosis. Two died after regional recurrence developed (1 retroperitoneal, 1 meningeal), and one died of lung metastases. In six patients with primary tumors of the abdominal wall, the M:F ratio was 3:3 and the median age was 9.5 yr. Three of five with localized tumor (Groups I-III) were disease-free at a median of 5 yr after diagnosis; one died after regional recurrence, and one died from accidental trauma. The one Group IV patient died of tumor. Overall, 15 of 30 patients (50%) are alive and free of recurrent disease at a median of 5+ yr after initiation of treatment. The authors conclude that prognosis is most favorable for patients with paraspinal tumors, least favorable for those with chest wall tumors, and intermediate in patients with abdominal wall tumors. Prognostic differences appeared to be influenced by extent of disease at diagnosis and histologic subtype of the sarcoma. (Author abstract) (19 Refs)

6. DIAGNOSIS AND THERAPEUTIC ASPECTS OF SARCOMAS IN SOFT TISSUE.

Perez Carrion R, Guardiola Delegido L, Velasco Ortiz de Taranco A, Rubio Merinero L, Jimenez Berlana y Donnay Candil O
Servicio de Oncologia Medica, Instituto Nacional de Oncologia, Madrid, Spain
Oncologia; 5(1):255-264 1982

A retrospective study of 109 patients with soft tissue sarcoma (STS) included 39 with fibrosarcoma (FS), 23 with unclassified sarcoma (US), 13 with liposarcoma (LS), 11 with rhabdomyosarcoma (RMS), 6 with synovial sarcoma (SS), 5 with mesothelioma (MT), and 22 with miscellaneous sarcomas. Location of the FS and the LS were mostly in the legs and trunk, followed by the face, neck, and arms. Surgery was the preferred treatment; 61 local resections (LR) were performed, 23 radical resections (RR), and 25 RR after relapse. Sixteen of the patients did not have surgery, because of retroperitoneal location of their tumors. Most of the LR were performed elsewhere and most of them had relapsed. After the RR, frequency of relapse decreased. Five-yr survival was achieved by 49.6% of the patients. With reference to location, 5-yr survival was achieved by 70.8% of the patients with STS of the head and neck, by 57.4% of those with STS of the legs, by 55.5% of those with STS of the arms, by 42.8% of those with STS of the trunk and by 11.1% of those with STS of the abdominal region. Five-yr survival was achieved by 59.6% of the patients with the FS, 57.8% with the RMS, 50.4% with the US, and 29.7% with the LS. Radiotherapy was the only treatment in 8 of the patients was additional treatment after surgery in 44, and was additional treatment after relapse in 8. Radiotherapy after the LR decreased slightly the number of relapses, while after the RR it did not have any effect. (33 Refs) (In SPA)

7. PRIMARY ORBITAL SCHWANNOMAS.

Rootman J, Goldberg C, Robertson W
Dept. Ophthalmology, Univ. British Columbia, 2550 Willow St., Vancouver, British Columbia V5Z 3N9, Canada
Br J Ophthalmol; 66(3):194-204 1982

Clinical presentation, preoperative investigation, operative findings, and light and electron microscopic appearance of histologically proven schwannomas occurring in the orbits of seven patients are described. Four of seven cases were intraconal and three were extraconal. Displacement of the affected globe was related to the site of the mass and ranged from marked anteroinferolateral to none at all. Diplopia and strabismus on a mechanical basis were noted in two patients. Only one patient had an abnormal funduscopic examination with choroidal striae and peripapillary hemorrhages. Computed tomography detected six of seven lesions. Two tumors caused medial displacement of the optic nerve, three caused axial proptosis, and one caused indentation of the globe. Four of five contrast CT studies demonstrated enhancement. In all cases but one, lesions were well defined with discrete edges. Ultrasonography carried out in 4/7 patients detected tumors in three. Four nerves were specifically identified in association with their respective lesions, and all were removed leaving the nerves of origin intact. Histology was variable but typical of schwannoma. Electron microscopy confirmed the schwannoma origin in each of the tumors. An unusual electron microscopic feature noted in one tumor was the presence of a typical cilia. (12 Refs)

8. ALVEOLAR SOFT-PART SARCOMA OF THE ORBIT: A CLINICOPATHOLOGIC ANALYSIS OF SEVENTEEN CASES AND A REVIEW OF THE LITERATURE.

Font RL, Jurco S, Zimmerman LE
Ophthalmic Pathology Lab., Cullen Eye Inst., Baylor Coll. Medicine, Houston, TX, 77030
Hum Pathol; 13(6):569-579 1982

This is a clinicopathologic study of 17 cases of alveolar soft-part sarcoma of the orbit. The mean age of patients was 23 and the median was 18 (range, 11 mo to 69 yr); 13 patients (76.5%) were women and 4 were men (ratio, 3.25:1). The right and left orbits were equally involved (8 patients each), and in one the laterality was not specified. Histologically, the tumors had a distinctive organoid pattern outlined by thin-walled capillaries and were composed of nests of large polyhedral cells with abundant, finely granular, acidophilic cytoplasm. Approx two thirds of the tumors had diagnostic PAS-positive disease-resistant crystalline structures. Histologically, the differential diagnosis included nonchromaffin paraganglioma, granular cell tumor, metastatic renal cell carcinoma, vascular tumor, alveolar rhabdomyosarcoma, and amelanotic malignant melanoma. Electron microscopic studies of one tumor disclosed mitochondria with abnormal cristae, increased amounts of glycogen, and cytoplasmic crystalline structures with a periodicity of 8 to 10 nm. Smaller membrane-bound electron-dense granules appeared to be precursors of the crystals. Follow-up studies showed that eight patients were alive and well (median follow-up period, 11.4 yr). Six of the eight patients at the time of diagnosis were 20 yr of age or younger. A ninth patient was alive and well 13 yr after excision of the orbital mass and 4 yr after bilateral thoracotomy with resection of nine pulmonary nodules. Two patients died as a result of metastatic disease, one 14 yr and the other 21 yr after initial orbital surgery. Two patients died of other causes, one of whom had pulmonary metastases at autopsy. The follow-up period on two recent cases was less than 3 years, and two patients were lost to follow-up. The disease pursued an indolent clinical course. Surgery offers the best chance to control the disease. (Author abstract) (24 Refs)

9. ALVEOLAR SOFT PART SARCOMA: A MALIGNANT ANGIORENINOMA? (MEETING ABSTRACT)

DeSchryver-Kecskemeti K, Kraus FT, Lacy PE
Division of Surgical Pathology and Department of Pathology, Washington University School of Medicine, St. Louis, MO
Lab Invest; 46(1):18A 1982

In the 30 years since Christopherson established alveolar soft part sarcoma (ASPS) as an entity with a remarkably distinctive pattern and clinical course, there have been numerous attempts to explain its histogenesis by ultrastructural and histochemical techniques. The subject remains unsettled. The unresolved question has continued to be failure to identify a normally occurring counterpart of its most distinctive feature, the membrane-bound crystalline organelles. This combined ultrastructural and immunohistochemical study of four ASPS analyzes the characteristic granules in order to elucidate the histogenesis of this unusual neoplasm. Tumor cells of ASPS were found to bear a striking similarity to the ultrastructural features and staining characteristics of juxtaglomerular (JG) cells, react with antiserum to renin, and incorporate zinc into the crystalline storage granules. Nerve endings in close proximity to tumor cells are conspicuous. The cell of origin appears to be a modified smooth muscle cell, analogous to renal JG cells and cells of JG cell tumors. Therefore, we propose a new name, malignant angioreninoma, that reflects our current views on the histogenesis of this tumor. Unlike other soft tissue sarcomas, ASPS, although clearly malignant, has been reported to progress slowly over a period of 10 to 15 years. In this respect also, they behave more like malignant endocrine neoplasms. (no Refs)

10. THREE-YEAR RELAPSE-FREE SURVIVAL RATES IN CHILDHOOD RHABDOMYOSARCOMA OF THE HEAD AND NECK. REPORT FROM THE INTERGROUP RHABDOMYOSARCOMA STUDY.

Sutow WW, Lindberg RD, Gehan EA, Ragab AH, Raney RB, Ruymann F, Soule EH

Dept. Pediatrics, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Texas Medical Center, Houston, TX, 77030

Cancer; 49(11):2217-2221 1982

In 202 patients with rhabdomyosarcoma of the head and neck who registered in the first Intergroup Rhabdomyosarcoma Study, the primary lesions arose about the eye and orbit in 26%, in parameningeal sites in 46%, and in other head and neck areas in 28%. Histopathologically, 78% were embryonal-botryoid, 9% alveolar, 10% undifferentiated, and 3% extraosseous Ewing's types. Actual 3-yr relapse-free survival rates were calculated from data on 103 of these patients who were free of distant metastases at diagnosis and in whom follow-up had been completed for a 3-yr period. The actual relapse-free survival rates were 91% (21/23) for those with eye/orbit primaries, 46% (20/44) for those with parameningeal primaries, and 75% (27/36) for those with other head and neck sites affected. Among those with no clinical evidence of tumor activity at 2 yr, 8% (6/75) had subsequent relapses. (Author abstract) (24 Refs)

11. METASTASIS OF SARCOMATOUS LESION IN REGIONAL LYMPH NODE.

Lee YT, Moore TM, Schwinn CP

Dept. Surgery, Univ. Southern California Medical Sch., 1200 N State St., Los Angeles, CA, 90033

J Surg Oncol; 20(1):53-58 1982

This is a retrospective study of 390 patients with early sarcoma admitted over a 13-yr period. There were 182 bone lesions, 173 soft tissue sarcomas, and 35 visceral sarcomas. Two hundred ninety-two patients had surgical resections, and 77 had specimens of lymph node(s) examined histologically. Among the latter group, 6 of 47 patients with non-osseous sarcomas (13%) had metastasis in the regional node initially (subtypes include fibrohistiocytoma, leiomyosarcoma, rhabdomyosarcoma; synovial, anaplastic, and Kaposi sarcoma). Another two patients developed nodal metastasis subsequently (rhabdomyosarcoma). Among the 30 patients with skeletal sarcomas who had lymph nodes removed during resection, 1 case with osteogenic sarcoma and 1 chondrosarcoma had nodal metastasis initially (7%). During follow-up, one patient with Ewing's sarcoma and another with chondrosarcoma developed regional lymphadenopathy. Our findings are discussed and compared with incidences of metastatic sarcomatous lesion in lymph node reported in the literature. (Author abstract) (34 Refs)

12. CYTOLOGY OF WELL-DIFFERENTIATED AND POORLY DIFFERENTIATED HEMANGIOSARCOMA IN FINE NEEDLE ASPIRATES.

Abele JS, Miller T

Anatomic Pathology, M 576 Moffit Hosp., San Francisco, CA, 94143

Acta Cytol (Baltimore); 26(3):341-348 1982

The cytologic descriptions of fine needle aspirates from one well-differentiated and one poorly differentiated hemangiosarcoma are reported and correlated with the histologic findings. Aggregates of 2 to 10 cells predominated in the aspirate from the well-differentiated tumor. In Papanicolaou-stained smears and filter preparations, single nuclei, resembling intravascular nuclear protrusions in a punch biopsy specimen, projected from some of these cell groups. Shallow longitudinal invaginations characterized the hyperchromatic nuclei. Erythrophagocytosis and cytoplasmic vacuoles were evident in Wright's-stained smears. Individual binucleate cells predominanted in aspirates from the poorly differentiated tumor. Their nuclei exhibited thicker membranes, more prominent nucleoli and clearer parachromatin than did those of cells from the well-differentiated tumor. Cytoplasmic projections were common and sometimes quite complex. While these cytologic features are not pathognomonic, they are indicative of a malignant neoplasm and can be combined with clinical and other histopathologic data to provide a complete diagnosis. (Author abstract) (16 Refs)

13. SARCOMAS OF THE PULMONARY ARTERY (MEETING ABSTRACT)

Burns WA, Salazar GH, Roth J

Muhlenberg Hospital, Plainfield, NJ

71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

Sarcoma arising in the pulmonary artery are extremely uncommon. The diagnosis of a primary pulmonary artery sarcoma is usually made at autopsy because the lesion is rarely recognized during life, frequently being diagnosed as recurrent pulmonary emboli, cor pulmonale, or as an arteriovenous fistula. The reported histologic patterns vary but most frequently have been described as leiomyosarcomas. We have had the opportunity to study three cases of this tumor, two in lobectomy specimens and one at autopsy. Grossly, the tumor masses spread throughout the primary and secondary branches of the pulmonary artery. Metastases were to local lymph nodes. Light microscopy showed diffuse sheets of a sarcomatous lesion arising from and extending through the wall of the pulmonary artery. The cells were generally spindle to fusiform in shape, but some were giant cells, with foci of palisading and fasicle formation. Collagen production appeared sparse. Two of the tumors had osseous and cartilagenous features. Electron microscopy of one specimen demonstrated that many of the cells lacked clear-cut diagnostic criteria, but some had obvious features of leiomyoblasts. Myofilaments, when present, were often numerous with an orientation, for the most part, parallel to the long axis of the nucleus. Dense bodies were present among the myofibrils, often at the margins of cells. Junctional complexes and basal lamina were less numerous than usual. (no Refs)

14. DIAGNOSIS OF HEMANGIOMAS OF THE JAW AND FACE IN EARLY CHILDHOOD.

Schettler D, Heesen J
Klinik fur Kiefer- und Gesichtschirurgie, Universitatsklinikum der Gesamthochschule Essen, Hufelandstr. 55, D-4300 Essen 1, W. Germany
Dtsch Zahnaerztl Z; 37(4):371-374 1982

Diagnosis and treatment of hemangiomas in early childhood (HEC) are discussed; three illustrative cases are presented. HEC in young children are dysontogenetic formations and include simple and cavernous types. Cavernous HEC may occur in the skin, mucosa, muscle, or bone. In many cases HEC regress spontaneously. Surgery is therefore indicated in only a few cases, since it involves loss of normal tissue; radiotherapy is contraindicated because of damage to normal tissues. A 4-mo-old girl was treated for a tuberous hemangioma in the oral floor and parotid area that presented a threat to life by interfering with breathing. The hemangioma was demonstrated by superselective angiography (SSAG). Embolization was not performed because of the smallness of the target vessels and the presence of arteriovenous shunts. The portion of the angioma in the oral floor was removed; the parotid portion regressed. An angioma HEC of the upper lip and nasal root in an 8-mo-old girl regressed spontaneously without treatment. A hemangioma of the left maxilla in a 14-yr-old girl was demonstrated by SSAG. Preoperative embolization to reduce bleeding was followed by surgical resection. Embolization is recommended only for minimizing intraoperative bleeding; treatment of HEC by embolization alone is worthless, since rapid recanalization and formation of arteriovenous shunts leads to complete recurrence. SSAG is the principle means of diagnosis of HEC. (5 Refs) (In GER)

15. GALLIUM-67 UPTAKE IN CYSTOSARCOMA PHYLLODES.

Silver MR
Dept. Radiology, Presbyterian-Univ. Hosp., Univ. Pittsburgh, Pittsburgh, PA, 15260
AJR; 138(6):1181-1183 1982

Gallium-67 was used to evaluate cystosarcoma phyllodes (CP) of the breast, local recurrences of CP, and distant metastases of CP in a 56-yr-old woman. The patient presented 1 yr after the discovery of swelling of the right breast and shortly after observation of a bloody purulent discharge from the nipple of the involved breast. A radical mastectomy was performed. Nodules observed at the mastectomy site 4 mo after surgery were evaluated using gallium-67. Abnormalities of gallium uptake were observed in the lung and liver. (13 Refs)

16. ANGIOSARCOMA OF THE BREAST: A PATHOLOGIC STUDY OF FORTY PATIENTS (MEETING ABSTRACT)

Donnell R, Rosen PP, Lieberman PH, Kay S, Kaufman R, Braun D
Vanderbilt University, Nashville, TN
71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

Angiosarcoma of the breast is a rare malignant tumor that has generally been considered as almost uniformly fatal. No one group of pathologists has previously reviewed and reported a significant number of cases, and the spectrum of morphology has not previously been analyzed. We undertook this study to more clearly define the pathologic features of these tumors, to see whether the microscopic features can be related to prognosis, and to try to identify a group of patients who might benefit from adjuvant chemotherapy. We reviewed the clinical and pathologic features of 40 cases of angiosarcoma seen at Memorial Hospital and at the Medical College of Virginia in the past 40 years. Treatment and follow-up data were obtained from various sources. We found that the histologic appearance of angiosarcomas of breast is a good prognostic indicator. Whereas 10 of 13 patients in histologic group I were alive and free of disease with an average follow-up of nearly 6 years, only two of 16 group III patients were free of disease, and 14 have died with metastatic disease. The group II patients had a survival similar to those in group I. In this series the disease-free survival at 3 years was 41 per cent and at 5 years 33 per cent, much better than that reported in previous reviews of mammary angiosarcoma. Adjuvant chemotherapy, particularly actinomycin D, seems to be effective in some patients. (no Refs)

17. ANGIOSARCOMA OF THE BREAST (MEETING ABSTRACT)

Merino MJ, Carter D, Barwick KW, Berman M
Department of Pathology, Yale University, New Haven, CT
71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

Primary angiosarcoma of the breast is an unusual neoplasm generally associated with a dismal prognosis. To determine whether there is a relationship between the morphologic appearance of angiosarcomas and their clinical behavior, 14 cases observed between 1957 and 1980 were studied. All of the patients were women ranging in age from 31 to 85 years (median 50 years). The right breast was most commonly affected (11 patients) with the area adjacent to the nipple and the outer quadrants being the most common locations. The tumor masses ranged in size from 2 to 9 cm. There was marked variability in the histologic patterns. Six cases showed the characteristic well-defined intercommunicating vascular spaces with minimal to moderate atypia of the endothelial cells. The other eight cases had varying degrees of pleomorphism and anaplasia with apparently solid areas that were composed of spindle-shape cells. The vascular nature of these solid areas was demonstrated by electron microscopy and by immunoperoxidase staining with factor VIII-associated antigen. All of the patients except one underwent mastectomy. No axillary lymph node metastases were found. The follow-up period ranged from 1 to 24 years. Six patients are alive with no evidence of disease 18 months to 24 years after diagnosis. Another patient is living with disease 8.5 years after surgery. Three patients died of unrelated causes, and four died of disease 1 to 5 years after diagnosis. (no Refs)

18. PRIMARY ANGIOSARCOMA OF THE HEART DETECTED BY TECHNETIUM-LABELED ERYTHROCYTE CARDIAC IMAGING.

Bennett MT, Weber PM, Killebrew ET
Dept. Gastroenterology, Univ. California Medical Center, 225 Dickinson St., San Diego, CA, 92103
Cancer; 49(12):2587-2590 1982

Patients with primary angiosarcoma of the heart typically have the signs of right-sided congestive heart failure pericardial chest pain and pericardial effusion. The diagnosis of this uncommon tumor can be confirmed by nuclear cardiac scan to demonstrate any filling defect. The authors suggest that patients with this clinical presentation undergo nuclear heart scan as a noninvasive screening test to visualize the cardiac chambers and evaluate cardiac function. (Author abstract) (21 Refs)

19. JUVENILE LIPOSASCOMA: AN ANALYSIS OF 15 CASES (MEETING ABSTRACT)

Shmookler BM, Enzinger FM
Soft Tissue Pathology Branch, Armed Forces Institute of Pathology, Washington, DC, 20306

Am J Clin Pathol; 77(2):245 1982

Liposarcoma, one of the more common soft tissue sarcomas affecting adults, is exceedingly rare in children. Therefore, we analyzed 15 cases of liposarcoma occurring in patients between 8 months and 15 years of age (mean 11.8 yr), a group comprised of 10 females (67%) and five males (33%). As with the adult form, the thigh proved to be the most frequently involved sites (five cases), followed by two each in the axilla and knee region and only one in the retroperitoneum. Typically, the tumors were lobulated, often partially encapsulated and focally myxoid and ranged from 3.5 to 14.0 cm in greatest dimension. Twelve lesions fulfilled the generally acceptable histologic criteria for myxoid liposarcoma, whereas two were classified as well-differentiated and one as round cell liposarcoma. We obtained follow-up information (ranging from 1.2 to 17.2 years) for all the patients. Three neoplasms recurred locally, one of which, a myxoid liposarcoma in the axilla of an 11-year-old boy, terminated fatally as a result of local extension into the pleural cavity. Benign lipoblastomatosis, considered in the differential diagnosis of all the cases, usually reveals a more prominent lobulation and, unlike most myxoid liposarcomas, often displays a striking interlobular variation in the maturity of the adipose tissue cells. (no Refs)

20. MALIGNANT FIBROUS HISTIOCYTOMA OF SOFT TISSUE WITH METAPLASTIC BONE AND CARTILAGE FORMATION: A NEW RADIOLOGIC SIGN.

Dorfman HD, Bhagavan BS
Dept. Pathology, Sinai Hosp. of Baltimore, Baltimore, MD, 21215

Skeletal Radiol; 8(2):145-150 1982

Of 39 cases of soft tissue malignant fibrous histiocytoma (MFH), seven contained bony and cartilaginous tissue microscopically, and five of those showed punctate and curvilinear soft tissue densities strongly suggestive of myositis ossificans radiologically. Case reports of these five patients (3 females, 2 males; 10-67 yr old) are presented. Only one case showed the histological features of malignant cell tumor of soft tissue, regarded as a variant of MFH. The osseous or cartilaginous elements were present in variable amounts in the tumors. In four of five cases zoning appeared as seen in myositis ossificans. Chondroid metaplastic tissue blended gradually into reactive bone trabeculae. Plain films demonstrated the mineralized matrix elements as curvilinear densities or punctate densities which tended to be located at the periphery of the tumor masses or at one pole with a pyramidal cap shape. While peripheral zoning in four cases suggested myositis ossificans, the so-called dotted veil appearance of myositis ossificans was not observed. New bone formation adjacent to the femur or ulna was observed in three cases. Clinically, the cases had a short history ranging from a few wk to 6 mo, rendering the existence of a benign lesion prior to the development of MFH unlikely. A diagnosis of MFH should be considered by the radiologist in differential diagnosis of soft tissue tumors with calcific densities. (11 Refs)

21. THE POSTOPERATIVE PROGNOSIS OF PRIMARY PULMONARY SARCOMAS. A REVIEW WITH A COMPARISON BETWEEN THE HISTOLOGICAL FORMS AND THE OTHER PRIMARY ENDOTHORACAL SARCOMAS BASED ON 474 CASES.

Gebauer C
Univ. Medical Clinic 2, D-6500 Mainz, W. Germany

Scand J Thorac Cardiovasc Surg; 16(1):91-97 1982

On the basis of 41 personally observed cases from 1957 to 1974 and 435 case reports in the literature from 1957 to 1972, a scale of malignancy of the histological forms of primary pulmonary sarcomas is presented. A fairly continuous rise in the rate of malignancy according to the differentiation of the tissues can be convincingly recognized. The more mature a pulmonary sarcoma is, the better is the postoperative prognosis. The rate of malignancy increases from the relatively differentiated and tissue matured fibrosarcomas over the spindle cell sarcomas and round cell sarcomas, to the completely non-differentiated polymorph cell sarcomas. Primary myosarcomas, neurosarcomas and reticulum sarcomas of the lungs take an isolated position within this scale of malignancy. Primary lymphosarcomas are the most common and have clearly the best postoperative prognosis. The greatest malignancy is found with the carcinosarcomas. The characteristics of each of the histomorphological forms of primary sarcoma of the lungs are discussed. At the same time it is shown that the postoperative prognosis of endothoracal sarcomas is determined not only by their histological structure, but also by their localization in the lungs, mediastinum, or chest wall. Forty-one primary pulmonary sarcomas were compared with 22 sarcomas of the mediastinum and 17 sarcomas of the chest wall. Due to their long period of development, with rare symptoms and late diagnosis, sarcomas of the lungs and the mediastinum have a similar postoperative prognosis, in contrast to the endothoracal sarcomas of the chest wall which have a clearly more favorable prognosis. (Author abstract) (31 Refs)

22. DIFFUSE, UNDIFFERENTIATED NON-HODGKINS LYMPHOMA AMONG HOMOSEXUAL MALES — UNITED STATES.

Ziegler JL, Wagner G, Greenspan JS, Shillitoe EJ, Greenspan D, Beckstead J, Cassavant C, Abrams D, Chan W, Silverman S, Lozada F, Drew L, Rosenbaum E, Miner R, Mintz L, Gershow J, Weiss R, Yamamoto K, Chick K, Dritz S, Austin D, Chin J, McGuire W, Iosifides I, Francis BJ, Costa J
Veterans Admin. Medical Center, San Francisco, CA

MMWR; 31(21):277-279 1982

Four cases of diffuse, undifferentiated non-Hodgkins lymphoma (DUNHL) are described, with a discussion of the epidemic of Kaposi's sarcoma, Pneumocystis carinii, and other opportunistic infections (KSOI) among homosexual males and the possible relationships between the two disorders. All four patients were homosexual males living in San Francisco; all had used various drugs, and had had infections such as hepatitis B, anal warts, gonorrhea, and syphilis. The association of DUNHL and KSOI suggests that more than one kind of tumor may be involved in the KSOI syndrome. (15 Refs)

23. THERMOGRAPHY IN THE FOLLOW-UP OF BONE AND SOFT TISSUE TUMORS.

Gattoni F, Mazzoni R, Nessi R, Bergonzi S, Lombardi F, Viganotti G
Istituto di Scienze Radiologiche, Universita, Milan, Italy
Radiol Med (Torino); 68(4):261-265 1982

Sixteen patients with bone tumors and 16 with soft-tissue tumors were subjected to thermographic examinations before treatment and during the follow-up period. The bone tumors included 13 Ewing's sarcomas, 2 reticulosarcomas and 1 osteosarcoma. The soft-tissue tumors included fibrosarcomas, liposarcomas, rhabdomyosarcoma, malignant fibrous histiocytomas, malignant schwannomas, hemangioendothelioma, histiocytic lymphoma, centrocytic lymphoma, aggressive fibromatosis, neurofibrosarcoma and neurosarcoma. All 16 patients with bone tumors were subjected to telecobalt therapy and chemotherapy. The thermal gradients measured before treatment were +2 to +7 C, while thermography performed 6 mo after treatment showed O C in 4/16 patients, +1 C in 4/16, +2 C in 4/16, +3 C in 2, and +5 C in 2. Thermography, performed in 7/16 patients 12 mo after treatment, showed gradients of 0 C in 1/7 patients, +1 C in 2/7, +2 C in 1/7, +3 C in 2/7 and +5 C in 1/7. The 16 patients with soft-tissue tumors were subjected to surgery and/or telecobalt therapy and chemotherapy. Their thermal gradients before treatment were +1 to +7 C, while a gradient of 0 C was found in 3/16 patients, and +1 to +4 C in 13/16. Thermographic examinations were performed in 9/16 patients 12 mo after treatment: the thermal gradients were 0 C in 2/9 patients, +1 to +3 C in 7/9 and +7 C in 1/9. The presence of local recurrence 12 mo after treatment corresponded to new hyperthermic spot and to increased local vascularity in the patients with bone and soft-tissue tumors. (8 Refs) (In ITA)

CHEMOTHERAPY

24. PRIMARY OSTEOGENIC SARCOMA OF THE FEMUR: IMPROVED CONTINUOUS DISEASE-FREE SURVIVAL WITH IMPROVED CHEMOTHERAPY (MEETING ABSTRACT)

Rosen G, Caparros B, Groshen S, Marcove RC, Lane JM, Huvos AG
Memorial Sloan-Kettering Cancer Center, New York, NY
Joint Meeting of the Society of Surgical Oncology and Society of Head and Neck Surgeons, April 18-23, 1982, Marco Island, Florida. The Society of Surgical Oncology and the Society of Head and Neck Surgeons 265 pp., 1982.

The value of adjuvant chemotherapy (CT) in primary osteogenic sarcoma (OSA) is still considered controversial by some. One reason may be that various reported series include pts with widely varying prognostic variables. To address this, the effect of CT on the continuous disease-free (CDF) survival of 96 pts, aged 21 years or less, with OSA of the femur was analyzed. This classically poor prognostic group of pts represented 49% of all primary OSA seen during the study interval. This study includes all pts aged 21 years or less with fully malignant OSA of the femur, and no metastases at time of referral, treated between October 1973 and October 1980. The first protocol (32 pts) consisted of high dose methotrexate (HDMTX) with leucovorin rescue, cyclophosphamide (Cyc) and adriamycin (T-4). In the second protocol (T-7) the dose of HDMTX was increased to 12 gm/M2 for prepubescent pts, and bleomycin, Cyc and dactinomycin replaced Cyc (23 pts). The current (T-10) protocol (41 pts) uses the same CT as T-7, but pts not having a complete response of the primary tumor to preoperative chemotherapy received additional cisplatinum. In 32 pts treated with T-4 the CDF survival was 37.5%. Although the 2-year survival was in excess of 70% with the addition of thoracotomies, the 6-year survival steadily dropped to 45%. On T-7 15/23 pts had a CDF survival of 65% at 3-5 (median 4) years. With the addition of thoracotomies the survival of T-7 pts is 80%. The addition of cisplatinum for incomplete to preoperative CT in T-10 had resulted in CDF survival rate of 90% in 37/41 pts; although the median follow-up on T-10 is only 2 years their CDF survival curve has plateaued from 18 to 40 months. All but 2 pts treated on T-10 had transmedullary surgery of the femur, 18 of whom had limb-salvage procedures. (no Refs)

25. RADIOGRAPHIC AND ANGIOGRAPHIC CHANGES OF OSTEOSARCOMA FOLLOWING INTRAARTERIAL CHEMOTHERAPY (MEETING ABSTRACT)

Chuang VP, Charnsangavej C, Soo CS, Wallace S, Benjamin R, Jaffe N
M. D. Anderson Hospital and Tumor Institute, Houston, TX, 7703
Eighty-second Annual Meeting of the American Roentgen Ray Society, May 10-14, 1982, New Orleans, Louisiana The American Roentgen Ray Society; :A251 1982

Transcatheter arterial infusion chemotherapy (TAIC) has improved the preoperative control of osteosarcoma. The conventional radiographs and angiographies of osteosarcoma were evaluated in 24 patients following TAIC. In patients who responded to TAIC, the conventional radiographs revealed solid rim calcification or overall increase of organized calcification and the angiographies showed decreased tumor vessels and stain. Using angiographic criteria, 17 of 24 patients responded to TAIC in this series. Limb salvage operation became the treatment of choice in the responders and aggressive limb amputation was avoided. Excellent correlation between the angiographic findings of tumor response and the pathohistologic evidence of tumor necrosis was established. (no Refs)

26. EWING'S SARCOMA: THERAPEUTIC EXPERIENCE.

Ribeiro-Ayeh J, Walther A, Horrig C
Zentrum der Kinderheilkunde, Atellung fur Padiatrische Haematologie und, Onkologie Klinikum der Johann Wolfgang Goethe-Universitat, Theodor-Stern-Kai 7, D-6000 Frankfurt/Main 70, W. Germany
Monatsschr Kinderheilkd; 130(1):30-35 1982

Four children (2 boys and two girls, 13-14 yr old) with Ewing's sarcoma (ES) were treated with T-6 and T-2 chemotherapy protocols according to Rosen. Tumor sites included the right iliac bone (2 patients), the proximal metaphysis of the left femur (1 patient), and the right humerus (one patient). Preoperative chemotherapy produced regression of tumor and allowed surgical resection in three children. One child underwent resection after one cycle of the T-6 protocol. Examination of the resected tissue indicated the presence of malignant cells. Surgery was followed by an additional cycle of T-6, irradiation with 5,000 rads, and a cycle of T-2 therapy. Because of the finding of malignant cells in the first case, two subsequent patients were treated with two course of T-6 therapy prior to surgery. Examination of resected tissue from these patients detected no malignant cells. The tumor of the humerus involved a pathological fracture. Two courses of T-6 therapy produced regression of the tumor and allowed the fracture to heal. The three children who underwent resection were free of tumor after 12-24 mo. The child with ES of the humerus was free of metastases at 7 mo; pulmonary metastases were detected at 8 mo, shortly before a planned resection. Aggressive chemotherapy is evidently capable of producing regression of EW and thereby enabling resection. Radiotherapy should be avoided when possible because of the morbidity involved. (10 Refs) (In GER)

27. THE CLINICAL ASPECTS AND CHEMOTHERAPY OF DIFFUSE MALIGNANT MESOTHELIOMA: A REVIEW OF 15 CASES.

Kocakus MN
Div. Oncology, Hacettepe Univ., Sch. Medicine, Ankara, Turkey
Kanser; 11(1):1-24 1981

Fifteen cases of malignant diffuse mesothelioma, 1 peritoneal, 14 pleural, were analyzed retrospectively. There were 11 men and 4 women. The median age was 49 yr. Probable exposure to asbestos was documented in one patient. All the patients were symptomatic on presentation, chest pain and dyspnea being the most frequent symptoms. Pleural effusion was the most common sign in patients with pleural mesothelioma. The only patient with peritoneal mesothelioma had ascites. The diagnosis was made by tissue biopsy in all cases. Biopsy material was obtained in four cases by thoracotomy, in one case by laparotomy, in seven cases by pleural needle in 3 cases through the thoracoscope. Sixteen courses of chemotherapy were biopsy, and in three cases through the thoracoscope. Sixteen courses of chemotherapy were employed to the 14 patients. Methyl CCNU (semustine) was administered to five patients with a dose of 200 mg/m2/PO/ every 6 wk. No response was obtained Adriamycin was given to six patients at a dose of 50 mg/m2/IV/every 3 wk. Two patients achieved a partial response lasting 3 and 4 mo. Cis-platinum was employed to five patients at a dose of 20 mg/m2/IV/ for 5 days/every 4 wk. Three patients had partial remission lasting 24, 8 and 6 mo. Toxic effects of the drugs were mild consisting largely of nausea, vomiting, alopecia and leukopenia. The clinical, diagnostic and therapeutic features of malignant diffuse mesothelioma were discussed. It was concluded that Cis-platinum Diammine Dichloride may be useful in the treatment of malignant mesothelioma. However, further randomized studies in a larger group of patients will determine more precisely the value of this drug in the management of malignant diffuse mesothelioma. (Author abstract) (70 Refs)

SURGERY

28. LIMB SALVAGE IN PRIMARY MALIGNANT BONE TUMORS (MEETING ABSTRACT)

Bowman WE, Sim FH, Chao EY, Pritchard DJ
The Mayo Clinic, Rochester, MN
Joint Meeting of the Society of Surgical Oncology and Society of Head and Neck Surgeons, April 18-23, 1982, Marco Island, Florida. The Society of Surgical Oncology and the Society of Head and Neck Surgeons 265 pp., 1982.

Since 1970, 157 patients (114 chondrosarcomas, 33 osteosarcomas, and 14 fibrosarcomas), have undergone en bloc resection for primary malignant tumors at the Mayo Clinic. Sixty-nine of these patients have had custom prosthetic reconstruction following resection. The remaining 88 patients have had resection alone or resection followed by fusion or bone grafting. Thirty-four patients have had custom proximal femoral replacement arthroplasty. The defect replaced ranged from 80 to 240 mm. Twenty-six of these patients are living with a mean survival of 29.8 months. Follow-up has averaged 21.4 months. Ninety-seven percent of these patients have no pain or only mild pain and only two patients have had local recurrence of the malignancy. Eight-three percent of patients had a mechanically well functioning prosthesis without complications at five years. Twenty patients had wide local resection of tumors about the knee with custom segmental prosthetic arthroplasty. The defect replaced averaged 122 mm. Average follow-up was 28.8 months. Knee motion averaged 85 degrees with a range of 45 to 115 degrees. Seventy percent of patients walked unassisted. There were 2 wound infections. Eight percent of patients had a mechanically well functioning prosthesis at five years. Six patients have died and 2 patients have had local recurrence of disease. Mean survival of the remaining patients is 32.7 months. A custom made vitallium prosthesis or a modular ceramic prosthesis had been utilized to reconstruct the proximal humerus in 10 patients. Follow-up averaged 25.5 months. All patients had near normal hand and elbow function but limited active shoulder motion. Mechanical complications occurred in 4 patients. One patient had local recurrence and 2 patients have died. Mean survival of living patients is 30.2 months. A scintered fibermetal prosthesis was used to reconstruct defects in long bones in 6 patients. Follow-up has averaged 34.4 months. There have ben no deaths or local recurrences in this group and mean survival is 37.2 months. (no Refs)

MULTIMODAL THERAPY

29. COMBINATION OF MODALITIES IN SOFT TISSUE SARCOMAS.

Karakousis CP

Dept. Surgical Oncology, Roswell Park Memorial Inst., Buffalo, NY, 14263

Int Adv Surg Oncol; 5:91-113 1982

A prospective, but nonrandomized study of combination of modalities in the treatment of primary sarcomas was conducted with the aim of both achieving an increased limb salvage for extremity sarcomas and attaining a higher local control rate than single-modality approaches. Sixty-one patients (37 males, 24 females, 13-89 yr old, mean 50 yr, median 48 yr) were admitted to the study having had a minimum follow-up period of 1.5 yr and a max of 4 yr. Patients with adequate surgical margins and small tumors, less than 5 cm in diameter and which were well differentiated (Grade I), received only surgical excision (14 patients). Patients with inadequate surgical margins, less than 2 cm in any area around the tumor, received postoperative adjuvant radiation to a total of approx 6,000 rad over 6 wk (200 rad/treatment). Of the 40 patients with extremity sarcomas, 4 received amputation as the primary surgical treatment. Forty-four patients with metastatic soft tissue sarcomas were referred for treatment. Of the 14 patients who had surgical excision as a single modality, 5 patients had recurrence; 1 of these patients died due to tumor progression and 13 remained alive and well. Of the 16 patients who received adjuvant chemotherapy, 9 have presented recurrences, 8 died, 1 was alive with disease, and 7 remained alive and well. Of the 20 patients with adjuvant radiation and chemotherapy, 3 patients developed recurrence which was systemic in 2 and both local and systemic in 1. Sixteen patients remained alive and well. Of the 11 patients with adjuvant radiation, 1 developed systemic recurrence and was alive with disease, while the other 10 patients remained alive and well. Twelve patients were selected as being representative of different anatomical areas, and all received postoperative adjuvant radiation. (54 Refs)

CASE REPORTS

30. RADIATION-INDUCED SOFT-TISSUE FIBROSARCOMA: SURGICAL THERAPY AND SALVAGE.

O'Neil MB, Cocke W, Mason D, Hurley EJ
(c/o Hurley) Div. Thoracic Surgery, Univ. Medical Center, 4301 X St., Room 213, Sacramento, CA, 95817
Ann Thorac Surg; 33(6):624-628 1982

Features of radiation-induced soft-tissue sarcoma following postoperative radiation are illustrated on 1 patient and on 10 patients previously reported in the literature. The patient, a 39 yr-old woman, presented with a biopsy-proven fibrosarcoma of the chest wall in a previously irradiated radical mastectomy site. Eleven yr previously, three superficial skin doses of 4,005, 1,016, and 1,016 rads had been delivered with a 100-kv source to the skin of the upper anterior chest, left axilla, and sternum, respectively. In addition she had also received cobalt 60 irradiation of 4,005 rads to the internal mammary and supraclavicular areas and 3,996 rads to the left anterior chest wall. At the time of the present hospitalization, the patient underwent a radical anterior chest with resection, including the entire sternum, overlying skin, and soft tissue, the heads of both clavicles with sternoclavicular joints, the costal cartilages, and rib tips of ribs one through seven. The resulting chest wall defect, measuring, 18 x 18 cm, was closed with Marlex mesh, and covered with a full-thickness skin flap created from the right breast and right lateral chest wall tissues. The flap donor site was covered with a split-thickness skin graft. Three and one-half yr after operation, the patient remains clinically free from disease, with normal chest roentgenograms, bone scans, and liver function tests. (8 Refs)

31. MALIGNANT MYOEPITHELIOMA OF THE FEMALE BREAST (MEETING ABSTRACT)

Erlandson RA, Rosen PP
Department of Pathology, Memorial Hospital for Cancer and Allied Diseases, New York, NY
71st Annual Meeting of the International Academy of Pathology (United States-Canadian Division), March 1-5, 1982, Boston, Massachusetts. International Academy of Pathology 95 pp., 1982.

Spindle cell tumors arising in the breast are uncommon and are generally considered to be variants of metaplastic carcinoma or stromal sarcoma. We describe the ultrastructure of a 2.8-cm, poorly circumscribed spindle cell tumor of myoepithelial origin that rose in the right breast of a 60-year-old woman. By light microscopy, the tumor consisted of interlacing bundles of spindle cells radiating from small clusters of plump cells with ovoid vesicular neclei and eosinophilic cytoplasm. Extremely attenuated cells with serpentine nuclei were prominent in the adjoining collagenous stroma. Extensive sectioning revealed no evidence of ductular carcinoma. Based on the histologic findings, a diagnosis of low grade stromal sarcoma growing largely as fibrous histiocytoma was favored over metaplastic carcinoma. Features indicative of ductular myoepithelial cell orgin include longitudinally oriented bundles of 6-nm microfilaments with fusiform densities, perinuclear 10-nm cytokeratin filaments, dilated rough endoplasmic reticulum (RER) cisternae, and pinocytotic vesicles. The elongated stromal cells displayed a prominent RER and subsurface microfilaments characteristic of myofibroblasts. The tumor is, therefore, best classified as low grade malignant myoepithelioma. The patient underwent a simple mastectomy with low axillary dissection and is free of disease 27 months following treatment. (no Refs)

32. BENIGN HEMANGIOENDOTHELIOMA OF THE TESTIS: CASE REPORT WITH ELECTRON MICROSCOPIC DOCUMENTATION AND REVIEW OF THE LITERATURE.

Hargreaves HK, Scully RE, Richie JP
Dept. Pathology and Lab. Medicine, Emory Univ. Sch. Medicine, Atlanta, GA, 30322
Am J Clin Pathol; 77(5):637-642 1982

Tumors of non-specialized gonadal mesenchyme have been reported only rarely. An intratesticular benign hemangioendothelioma from a 26-yr-old man presented a diagnostic challenge due to the infrequency of well-defined vascular lumens. Electron microscopy was helpful in defining the vascular nature of the tumor. In spite of the cellularity of the neoplasm, there has been no recurrence or metastasis over a 2.5 yr follow-up period. The histological features are compared with those of previously reported cases. (Author abstract) (29 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

33. RISK FACTORS FOR KAPOSI'S SARCOMA IN HOMOSEXUAL MEN.

Marmor M, Laubenstein L, William DC, Friedman-Kien AE, Byrum RD, D'Onofrio S, Dubin N
Inst. Environmental Medicine, New York Univ. Medical Center, 341 East 25th St., New York, NY, 10010
Lancet; 1(8281):1083-1087 1982

An investigation of 20 homosexual men with histologically confirmed Kaposi's sarcoma and 40 controls revealed significant associations between Kaposi's sarcoma and use of a number of drugs (amyl nitrite, ethyl chloride, cocaine, phencyclidine, methaqualone, and amphetamine), history of mononucleosis, and sexual activity in the yr before onset of the disease. Patients with Kaposi's sarcoma also reported substantially higher rates of sexually transmitted infections than did controls. Multivariate analysis indicated independent significant associations for amyl nitrite and sexual activity and showed use of phencyclidine, methaqualone, and ethyl chloride to be non-significant. Evaluated at the median exposure for patients, the analysis yielded risk-ratio estimates of 12.3 for amyl nitrite (95% confidence limits 4.2, 35.8) and 2.0 for sexual activity (95% confidence limits 1.3, 3.1). (Author abstract) (21 Refs)

34. KAPOSI'S SARCOMA AND PNEUMOCYSTIS PNEUMONIA AMONG HOMOSEXUAL MEN - NEW YORK CITY AND CALIFORNIA.

Friedman-Kien A, Laubenstein L, Marmor M, Hymes K, Green J, Ragaz A, Gottlieb J, Muggia F, Demopoulos R, Weintraub M, Williams D, Oliveri R, Marmer J, Wallace J, Halperin I, Gillooley JF, Prose N, Klein E, Vogel J, Safai B, Myskowski P, Urmacher C, Koziner B, Nisce L, Kris M, Armstrong D, Gold J, Mildvan D
New York Medical Center, New York, NY
MMWR; 30(25):305-308 1981

Kaposi's sarcoma has been diagnosed in 26 homosexual men (26-51 yr old) during the past 30 mo in California and New York. All eight of the patients died within 24 mo after diagnosis. Serological evidence of past or present infection with cytomegalovirus was observed in 12/12 examined. This occurrence of Kaposi's sarcoma in so many young men in a period of only 30-mo was considered to be highly unusual. The fulminant clinical course reported in many of these patients also differed from that classically described for elderly persons. Physicians should be alert for Kaposi's sarcoma, Pneumocystis pneumonia, and other opportunistic infections associated with immunosuppression in homosexual men. (19 Refs)

35. KAPOSI'S SARCOMA - AN EMERGING EPIDEMIC.

Mansell PW
Div. Cancer Prevention, M. D. Anderson Hosp. and Tumor Inst., Houston, TX
Cancer Bull; 34(2):72-74 1982

The pathobiology of Kaposi's sarcoma and the recent outbreak of the disease (greater than 200 cases) that has occurred among young male homosexuals are described. Kaposi's sarcoma may be associated with the DNA virus cytomegalovirus. It is also associated with immunosuppression and is a frequent second primary among cancer patients. The recent outbreak appears to be spreading from New York City, where 55% of the cases have originated. The population at risk (24-40 yr old) falls in age between that typical of American and European patients (60-70 yr) and that of African patients (less than 20 yr). All patients thus far examined have had anti-hepatitis B antibody or hepatitis B surface antigen, as well as anticytomegalovirus antibody titers. Cytomegalovirus has been cultured from tumor tissue in several cases. All patients in the outbreak have so far been immunosuppressed. The immunological defect appears to be progressive and long-lasting. All patients have had a history of sexually transmitted diseases, some with multiple manifestations such as hepatitis, genital herpes, gonorrhea, and condyloma. Mortality has been exceptionally high, with death occurring in a high percentage of patients within 20 mo, subsequent to unsuccessful combination chemotherapy with doxorubicin, bleomycin, Velban, and dacarbazine. Possible etiologic factors contributing to this outbreak and to malignant transformation in general are discussed. (23 Refs)

36. UPDATE ON KAPOSI'S SARCOMA AND OPPORTUNISTIC INFECTIONS IN PREVIOUSLY HEALTHY PERSONS — UNITED STATES.

Task Force on Kaposi's Sarcoma and Opportunistic Infections
Field Services Div., Epidemiology Program Office, Center for Disease Control, Atlanta, GA, 30333
MMWR; 31(22):294,300-301 1982

Reports of 355 cases of Kaposi's sarcoma and/or serious opportunistic infections, especially Pneumocystis carinii pneumonia (PCP), were received by the Center for Disease Control between June 1, 1981 and May 28, 1982. California, Florida, New Jersey, New York, and Texas accounted for 86% of the reported cases. PCP accounted for a significantly higher proportion of the cases for both male (63%) and female (73%) heterosexual patients than for homosexual patients (42%). Both male and female heterosexual PCP patients were more likely than homosexual patients to be black or Hispanic and to have used iv drugs. (2 Refs)

37. OSTEOGENIC SARCOMA IN BLACK AMERICANS A CLINICOPATHOLOGIC STUDY OF 100 PATIENTS (MEETING ABSTRACT)

Huvos AG, Bretsky SS, Butler A
Memorial Hospital for Cancer and Allied Diseases, New York, NY, 10021
Am J Clin Pathol; 77(2):246 1982

This study, based on patients treated at Memorial Hospital provides the first opportunity to analyze the distribution, the features and clinical behavior of osteogenic sarcomas in a large number of black patients. While 19% of the tumors in blacks occurred in children under 11 years old, only 10% of the tumors in whites occurred at a comparable age. Racial variations in skeletal growth spurts probably explain these differences. Also, while 14% of the white patients were older than 50 years of age, only 3% of the black patients were in this age group, and none was older than 60. Overall, blacks develop osteogenic sarcoma at an earlier age than whites. The skeletal distribution of the tumors was markedly different in two races. The incidence of osteogenic sarcoma in the tibia and fibula was higher in blacks as compared to whites, while it was lower in the humerus in blacks. Survival patterns among blacks were evaluated in view of the stage of disease, presence of pulmonary metastases, and size of the primary tumor as well as skeletal distribution and age. The duration of preoperative signs and symptoms was appraised to determine whether any differences in survival between blacks and whites may be due to a delay in seeking medical attention. (no Refs)

SELECTED PRE-CLINICAL STUDIES

38. HUMAN OSTEOSARCOMA DERIVED CLONAL VARIANTS: STABLE DIFFERENCES IN CELL SURFACE COMPOSITION.

De Martelaere D, Cassiman JJ, Van Leuven F, Verlinden J, Marynen P, Casteleyn J, Van den Berghe H
(c/o Cassiman) Div. Human Genetics, Dept. Human Biology, Univ. Leuven, Minderbroedersstraat 12, B-3000 Leuven, Belgium
Cell Biol Int Rep; 6(5):489-494 1982

Expression of a2Macroglobulin receptor, aminopeptidase M, transglutaminase, and fibronectin was measured by immunochemical and enzymatic techniques on five clonal variants of human osteosarcoma cell line MG-63. Major quantitative interclonal differences were observed in expression of the surface components, including reduced to absent expression of one or more components in some of them. (13 Refs)

39. STUDIES ON THE EFFECT OF HIGH-DOSE METHOTREXATE-CITROVORUM FACTOR TREATMENT FOR 89SR INDUCED OSTEOSARCOMA IN MICE.

Nakamura T
Dept. Orthopedic Surgery, Sch. Medicine, Kanazawa Univ., Kanazawa, Japan
Nippon Seikeigeka Gakkai Zasshi; 56(2):149-161 1982

We treated mice with 89Sr induced osteosarcoma with HD MTX (high-dose methotrexate) and CF (rescue by citrovorum factor), and observed the results of MTX administration. MTX and CF constantly injected through their tail veins at intervals of 6, 24 hr, respectively. The amount of MTX administered ranged from 60 mg/kg to 2,000 mg/kg, while CF administered totalled 200 mg/kg. To determine their antitumor efficacy, we adopted 3H-thymidine based labeling index and mitotic index as well as microautoradiography, and observed how the tumor proliferation had been prohibited. The anti-tumor efficacy was significant when 500 mg/kg of MTX was administered. There was no significant increase in anti-tumor efficacy even after 1,000, 2,000 mg/kg of MTX had been administered. Rather, the tumor was tending to be healed as time passed by after administration of MTX being 500 mg/kg. Then we administered 500 mg/kg of MTX and 200 mg/kg of CF twice at intervals of 6 days. After we had administered MTX in combination with

CF, we started observing the changing condition of the tumor. As a result, we recognized their significant anti-tumor efficacy. The tumor did not show any indication of serious growth. In view of the above, we concluded that it would be more effective to administer repeatedly an optimum dose of MTX and CF than to administer an ultra-high dose of MTX and CF. (Author abstract) (21 Refs) (In JPN)

AUTHOR INDEX WITH CITATION NUMBERS

Abele JS 12
Abrams D 22
Armstrong D 34
Austin D 22
Ayala AG 4
Barwick KW 17
Beckstead J 22
Benjamin R 25
Bennett MT 18
Bergonzi S 23
Berman M 17
Bhagavan BS 20
Bowman WE 28
Braun D 16
Bretsky SS 37
Burns WA 13
Butler A 37
Byrum RD 33
Caparros B 24
Carter D 17
Cassavant C 22
Cassiman JJ 38
Casteleyn J 38
Chan W 22
Chao EY 28
Charnsangavej C 25
Chick K 22
Chin J 22
Chuang VP 25
Cocke W 30
Costa J 22
D'Onofrio S 33
Dabska M 2
Dahlin DC 1
De Martelaere D 38
DeSchryver-Kecs 9
Demopoulos R 34
DiMaio S 4
Donnell R 16
Dorfman HD 20
Drew L 22
Dritz S 22
Dubin N 33
Enzinger FM 19
Erlandson RA 31
Font RL 8
Francis BJ 22
Friedman-Kien A 33
Friedman-Kien A 34
Gattoni F 23
Gebauer C 21
Gehan EA 10
Gehan EA 5
Gershow J 22
Gillooley JF 34
Gold J 34
Goldberg C 7
Gottleib J 34
Green J 34
Greenspan D 22
Greenspan JS 22
Groshen S 24
Guardiola Deleg 6
Halperin I 34
Hargreaves HK 32
Hays DM 5
Heesen J 14
Horrig C 26
Hurley EJ 30
Huvos AG 2
Huvos AG 24
Huvos AG 37
Hymes K 34
Iossifides I 22
Ivins JC 1
Jaffe N 25
Jimenez Berlana 6
Jurco S 8
Karakousis CP 29
Kaufman R 16
Kay S 16
Killebrew ET 18
Klein E 34
Koziner B 34
Kraus FT 9
Kris M 34
Kucuksu MN 27
Lacy PE 9
Lane JM 24
Laubenstein L 33
Laubenstein L 34
Lee YT 11
Lieberman PH 16
Lindberg RD 10
Lindberg RD 5
Lombardi F 23
Lozada F 22
Mansell PW 35
Marcove RC 24
Marmer J 34
Marmor M 33
Marmor M 34
Marynen P 38
Mason D 30
Mazzoni R 23
McGuire W 22
Merino MJ 17
Mildran D 34
Miller T 12
Miner R 22
Mintz L 22
Moore TM 11
Muggia F 34
Myskowski P 34
Nakamura T 39
Nessi R 23
Nisce L 34
Nora FE 3
O'Neil MB 30
Oliveri R 34
Perez Carrion R 6
Pritchard DJ 28
Pritchard DJ 3
Prose N 34
Ragab AH 10
Ragab AH 5
Ragaz A 34
Raney RB 10
Raney RB 5
Ribeiro-Ayeh J 26
Richie JP 32
Robertson W 7
Rootman J 7
Rosen G 24
Rosen PP 16
Rosen PP 31
Rosenbaum E 22
Roth J 13
Rubio Merinero 6
Ruymann F 10
Ruymann FB 5
Safai B 34
Salazar GH 13
Schettler D 14
Schwinn CP 11
Scully RE 32
Shillitoe EJ 22
Shmookler BM 19
Silver MR 15
Silverman S 22
Sim FH 28
Soo CS 25
Soule EH 10
Soule EH 5
Sutow WW 10
Task Force on K 36
Unni KK 3
Urmacher C 34
Van Leuven F 38
Van den Berghe 38
Velasco Ortiz d 6
Verlinden J 38
Viganotti G 23
Vogel J 34
Wagner G 22
Wallace J 34
Wallace S 25
Walther A 26
Weatherby RP 1
Weber PM 18
Weintroub M 34
Weiss R 22
William DC 33
Williams D 34
Yamamoto K 22
Ziegler JL 22
Zimmerman LE 8

Keep Up with the Cancer Literature

Each Month You Can Receive Abstracts Covering Your Specialty Area

- This convenient service — called Auto SDI* — is as near as your nearest biomedical library. Discuss your research interests with the librarian who will design an appropriate search strategy.
- Abstracts of the latest published literature are searched automatically each month and those related to your interests are delivered to you on a regular basis.
- The abstracts you receive are selected from more than 4,000 monthly entries made into CANCERLIT — the extensive cancer literature data base of the National Cancer Institute.

Talk With Your Librarian About the Auto SDI Service TODAY.

---

*Auto SDI stands for Automatic Selective Dissemination of Information. It is a service provided to you, at minimal cost, by the International Cancer Research Data Bank (ICRDB) — a part of the National Cancer Institute.

INTERNATIONAL CANCER RESEARCH
DATA BANK

Compilation of Experimental Cancer Therapy Protocol Summaries

COMPLIMENTARY COPIES
NOW AVAILABLE

April 1982
Sixth Edition

CONTENT

This document contains summaries of over 1200 open experimental clinical cancer therapy protocols from countries around the world.

Open protocols are arranged in sections according to the specific type of cancer.

Protocols closed in 1981 are listed by title, number, and investigator in a separate section.

INDEXES

Tumor index
Agent/Modality index
Protocol identification number index

Mail to:
Compilation Request
ICRDB Program
National Cancer Institute
Westwood Building Room 10A18
Bethesda, Maryland 20205

Request for 1982 COMPILATION.
(Print Clearly for use as mailing label)

Name: ____________________

Address: ____________________

____

City/State/Zip: ____________________

Country: ____________________

CANCER INFORMATION? CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE·CANCERLINE ·JUST MENTION OUR NAME

Mention CANCERLINE to your librarian and the world's foremost collection of cancer information is at your disposal. With the help of this computerized data system, you can obtain information on the following:

Cancer Literature

The literature date base, **CANCERLIT**, allows you to survey more than 3,000 biomedical journals for information on your topic of interest. Your search will also alert you to meeting proceedings, monographs, and books published in that area. Informative abstracts averaging 200 words are provided with each citation;

Current Cancer Research

The data base **CANCERPROJ** allows you to retrieve descriptions of current work in any cancer research area. The descriptions, which state research objective, methodology, and experimental results, are supplied for projects underway in 77 countries around the world.

Cancer Therapy Protocols

The **CLINPROT** section of CANCERLINE is designed primarily for clinicians. It provides detailed summaries of currently active experimental protocols for any cancer site, agent, or type.

Ask your biomedical librarian about CANCERLINE.
CANCERLINE is sponsored by the International Cancer Research Data Bank—a program of the National Cancer Institute.

CANCERLINE

☆U.S. GOVERNMENT PRINTING OFFICE: 1982-381-847:201

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

U.S.MAIL

THIRD CLASS
BULK RATE

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CT12/82/11

NCI/ICRDB/CT12 82/11

PB82-938711

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/11

NOVEMBER, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy ***If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:***

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY

DEC 3 1982

U. S. GOVT. PUBS.
DEPOSITORY 376

In this issue:

- **DIAGNOSIS** 1-14
- **CHEMOTHERAPY** 15
- **MULTIMODAL THERAPY** 16-18
- **CASE REPORTS** 19-21
- **SELECTED PRE-CLINICAL STUDIES** 22-26
- **REVIEWS** 27

DIAGNOSIS

1. RADIONUCLIDE BONE SCANNING OF OSTEOSARCOMA: FALSELY EXTENDED UPTAKE PATTERNS.

Chew FS, Hudson TM
(c/o Hudson) Dept. Radiology, Box J-374, Univ. Florida, J Hillis Miller Health Center, Gainesville, FL, 32610
AJR; 139(1):49-54 1982

The pathologic specimens of 18 osteosarcomas of long bones were examined to correlate histologic abnormalities seen on preoperative 99mTc pyrophosphate or methylene diphosphonate bone scans. Seven scans accurately represented the extent of the tumors. Eleven scans disclosed increased activity extending beyond the radiographic abnormalities. In eight of these, there was no occult tumor extension and in other three, the scan activity did not accurately portray the skip metastases that were present. Therefore, these 11 scans demonstrated the falsely extended pattern of uptake beyond the true limits of the tumors. Pathologic slides were available for 10 of the 11 areas of bone that exhibited extended uptake. In two instances, there was not pathologic abnormality. In the other eight cases we found marrow hyperemia, medullary reactive bone, or periosteal new bone. This is the first description of these histologic abnormalities of medullary bone in areas of extended uptake on radionuclide bone scans. (Author abstract) (16 Refs)

HE20.3173/2:

2. PERIOSTEAL CHONDROSARCOMA AND PERIOSTEAL OSTEOSARCOMA. TWO DISTINCT ENTITIES.

Bertoni F, Boriani S, Laus M, Campanacci M
(c/o Campanacci), Univ. Bologna, Istituto Ortopedico Rizzoli, via Codivilla 9, 40136 Bologna, Italy
J Bone Joint Surg [Br]; 64(3):370-376 1982

This review of 27 cases serves to emphasize that periosteal chondrosarcoma and periosteal osteosarcoma are two distinct entities. Clinically, periosteal chondrosarcoma is less painful than periosteal osteosarcoma and runs a slower course. Radiographically, periosteal chondrosarcoma tends to affect the metaphysis and contains granular or 'popcorn' opacities; while periosteal osteosarcoma more often affects the mid-diaphysis and shows lytic lesions with some spicules of reactive bone perpendicular to the underlying cortex. Histologically, periosteal chondrosarcoma shows lobular well-differentiated cartilage with Grade I or II (rarely Grade III) malignancy; periosteal osteosarcoma has a chondroid matrix with some osteoid component and Grade II or III malignancy. The prognosis in periosteal chondrosarcoma is good; conservative surgery is usually effective and metastases are very uncommon. In periosteal osteosarcoma the prognosis is less satisfactory but is better than that of other osteosarcomata; wide surgical excision is, however, needed and the incidence of metastases is about 15%. (Author abstract) (6 Refs)

3. CALCIFYING SYNOVIAL SARCOMA.

Varela-Duran J, Enzinger FM
(c/o Enzinger), Armed Forces Inst. Pathology, Washington, DC, 20306
Cancer; 50(2):345-352 1982

Analysis of the clinicopathological features and the available follow-up data in 32 patients with extensively calcified synovial sarcoma revealed an age incidence and anatomic distribution similar to that of ordinary synovial sarcomas without or with minimal calcification, but indicated a more favorable survival. The median age of the 32 patients of this series was 26 yr; the predominant location of the tumor was the soft tissues of the lower extremities; its av size was 4.6 cm (range, 1.5-20 cm). All of the tumors showed a focal biphasic cellular pattern and exhibited roentgenographic or microscopic evidence of extensive calcification and/or osseous metaplasia. Of the 26 patients with follow-up information (av, 8.9 yr) 17 were alive and well and 6 had died of their disease, 2 after 7 and 19 yr. Three additional patients were living with no signs of disease 1 1/2, 2 1/2, and 3 yr after diagnosis, respectively. The 5-yr survival rate of 82.6% of this series is considerably better than the reported 5-yr survival rates of synovial sarcoma which range from 25-51%. (Author abstract) (19 Refs)

4. OROFACIAL SYNOVIAL SARCOMA. A CLINICOPATHOLOGIC STUDY OF 11 NEW CASES AND REVIEW OF THE LITERATURE.

Shmookler BM, Enzinger FM, Brannon RB
Dept. Dermatopathology, Armed Forces Inst. Pathology, Washington, DC, 20306
Cancer; 50(2):269-276 1982

Synovial sarcoma arises most commonly in the lower extremity, particularly in the region of the lower thigh and knee. Yet the occurrence of this mesenchymal neoplasm in the head and neck area has been convincingly documented, albeit confined almost exclusively to cervical and parapharyngeal sites. Therefore, in view of its rarity in the head and neck, we analyzed a group of 11 synovial sarcomas arising in the orofacial region. The series comprised nine men (82%) and two women (18%). In common with synovial sarcoma at more conventional sites, this is a disease of young adults: ages ranged from 16-49 yr (median, 34 yr). Topographically, two subsets were delineated, a more common facial group with eight cases (4 cheek, 2 parotid region, 1 infraorbital, 1 submental), all arising as gradually enlarging, usually nontender, solitary tumors; and three intraoral ones (2 tonsillar, 1 lingual), two of which were polypoid and one was an exophytic tonsillar mass which presented with hemoptysis and stridor. Follow-up data, obtained for nine patients (range, 1.3-15.0 yr), disclosed three (33%) tumor-related deaths, all belonging to the facial group. Treatment, difficult to significantly correlate with survival in this small series, varied from surgical excision alone to a multimodality approach including both irradiation and chemotherapy. Histologically, all the neoplasms revealed characteristic biphasic features, predominantly fibrosarcomatous in one, but, more typically, showing epithelial clefts and/or pseudoacinar spaces in the others. Differential diagnosis, depending on the proportion of the biphasic components, ranged from spindle cell mesenchymal neoplasms to various adenocarcinomas, including those arising in mixed tumors of salivary gland. (Author abstract) (44 Refs)

5. DISSEMINATED KAPOSI'S SARCOMA IN HOMOSEXUAL MEN.

Friedman-Kien AE, Laubenstein LJ, Rubinstein P, Buimovici-Klein E, Marmor M, Stahl R, Spigland I, Kim KS, Zolla-Pazner S
New York Univ. Medical Center, 530 First Ave., New York, NY, 10016
Ann Intern Med; 96(6,part1):693-700 1982

Nineteen cases from an epidemic of disseminated Kaposi's sarcoma in homosexual men were studied by clinical, virologic, immunologic, and genetic methods. The patients were all male homosexuals ranging in age from 29 to 52 yr, with histories of multiple sexually transmitted diseases and exposure to both prescription and recreational drugs. Sites of disease included skin (16 of 19 patients), lymph nodes (13 patients), gastrointestinal tract (12 patients), spleen (3 patients), and lung (1 patient). Most patients had elevated levels of serum immunoglobins, positive antibody titers to hepatitis A and B virus, cytomegalovirus and Epstein-Barr virus, and impairment of cell-mediated immunologic reactions. The frequency of HLA-DR5 in these patients was significantly elevated. Two of the 19 patients died. Although the precise cause of this epidemic is unknown, it is likely that a genetic predisposition, an acquired immunoregulatory defect, and one or more infectious agents and drugs may be involved. (Author abstract) (48 Refs)

6. GASTROINTESTINAL INVOLVEMENT IN KAPOSI'S SARCOMA (MEETING ABSTRACT).

Saltz RK, Kurtz RC, Lightdale CJ, Safai B, Myskowski P, Urmacher C
Department of Medicine and Pathology, Memorial Sloan-Kettering Cancer Center, New York, NY
Gastroenterology; 82(5,part2):1168 1982

Since September, 1981, we have evaluated ten male homosexual patients with biopsy-proven skin lesions of Kaposi's sarcoma. Nine are white, one is black, and their ages range from 32-50 (mean 40). We report the findings of upper gastrointestinal (UGI) endoscopy (8/10) and colonoscopy (7/10) in these patients. The typical appearing blue-red, raised, nodular Kaposi's lesions were identified in the stomach (4) and duodenum (2) in 5 of 8 patients. Biopsies were not initially positive because they were too superficial. Colonoscopy revealed normal findings in 4 patients, non-specific left-sided inflammatory changes in 2, and 1 patient had typical lesions of Kaposi's sarcoma in the sigmoid colon which were confirmed histologically. Three other patients with Kaposi's sarcoma have been seen. Autopsy done in two revealed diffuse GI involvement including the esophagus, stomach, small and large intestine, liver, spleen, and pancreas. We correlated the degree of skin involvement with the presence and location of the GI tract involvement. Eighty percent of those patients with advanced cutaneous disease had GI lesions. All of the patients with oral mucosal lesions had GI lesions. In one patient, treated with Interferon, in whom improvement of cutaneous lesions was seen, the UGI lesions also showed significant improvement. Seven of ten patients had blood type O+ which is twice the expected distribution of this blood type. Viral and immunologic studies are underway to further characterize this problem and attempt to identify etiologic agents. (no Refs)

7. A COMPARATIVE STUDY OF MESOTHELIOMA AND ASBESTOSIS USING COMPUTED TOMOGRAPHY AND CONVENTIONAL CHEST RADIOGRAPHY.

Rabinowitz JG, Efremidis SC, Cohen B, Dan S, Efremidis A, Chahinian AP, Teirstein AS
Dept. Radiology, Mt. Sinai Sch. Medicine, One Gustave Levy Place, New York, NY, 10029
Radiology; 144(3):453-460 1982

A comparative study using computed tomography and conventional posteroanterior radiography was performed on 27 patients with mesothelioma and 13 patients with advanced asbestosis. The major pathologic features of both asbestosis and mesothelioma were well demonstrated by both modalities; computed tomography demonstrated the findings more frequently and in greater detail. No distinguishing features could be established based on configuration and size of the lesion. Many pleural plaques associated with advanced asbestosis were large and irregular and resembled those associated with mesothelioma. However, nodular involvement of the pleural fissures, pleural effusion, and ipsilateral volume loss with a fixed mediastinum were features predominating in mesothelioma. Growth determination of the plaques associated with asbestosis may be of minimal value since such plaques also undergo growth due to active inflammatory changes. (Author abstract) (22 Refs)

8. MESOTHELIOMA: PROFILE OF KERATIN PROTEINS AND CARCINOEMBRYONIC ANTIGEN. AN IMMUNOPEROXIDASE STUDY OF 20 CASES AND COMPARISON WITH PULMONARY ADENOCARCINOMAS.

Corson JM, Pinkus GS
Dept. Pathology, Brigham and Women's Hosp., 75 Francis St., Boston, MA, 02115
Am J Pathol; 108(1):80-88 1982

The distribution of keratin proteins and carcinoembryonic antigen (CEA) in 20 diffuse pleural malignant mesotheliomas and 20 adenocarcinomas of the lung was determined with the use of an indirect immunoperoxidase method. Keratin proteins were identified in all of the mesotheliomas, with strong staining observed in 17 of the cases. Tumor cells of various histologic types (tubular, papillary, solid, and spindle) revealed staining for keratin proteins. A variety of staining patterns were observed, but the homogeneous pattern predominated, in either a diffuse (16 cases) or focal form (4 cases). CEA was usually absent (11 cases), but weak or equivocal staining was also observed (8 cases), and 1 case uniquely exhibited moderate staining for CEA. In contrast, adenocarcinomas of the lung usually stained weakly or negatively (18 cases) for keratin proteins and exhibited a predominantly peripheral staining pattern. All cases, however, stained strongly or moderately for CEA. The profile of strong keratin staining and weak or absent CEA staining appears characteristic of mesotheliomas and may be diagnostically useful in defining the epithelial element of these neoplasms and in distinguishing them from adenocarcinomas. (Author abstract) (17 Refs)

9. MALIGNANT MESOTHELIOMA. ULTRASTRUCTURAL DISTINCTION FROM ADENOCARCINOMA.

Warhol MJ, Hickey WF, Corson JM
Dept. Pathology, Brigham and Women's Hosp., 75 Francis St., Boston, MA, 02115
Am J Surg Pathol; 6(4):307-314 1982

Quantitative and qualitative ultrastructural differences between mesotheliomas (MS) and adenocarcinomas (AD) which may have diagnostic utility were examined in 10 specimens of each histological type. MS were observed to have long complex microvilli and abundant intermediate filaments. In contrast, AD had relatively short simple microvilli and sparse intermediate filaments. The most notable differences between MS and AD were microvillous length and the amount of intermediate filaments. MS had a mean microvillous length expressed as the ratio of length/diameter of 11.9 as compared with 5.28 for AD. MS had a mean intermediate filament content of 2.8 compared with 0.4 for AD. Qualitative differences found to be of supplemental utility in differentiating MS from AD were microvillous complexity, microvillous rootlets, and the presence of lamellar inclusion bodies. Microvillous complexity of grade 3 was noted in five tumors, all MS. Two of the AD had microvillous rootlets and two had lamellar inclusion bodies. Neither feature was observed in MS. The other ultrastructural features examined did not appear to differ significantly between the two groups. (31 Refs)

10. CLINICAL STAGING AND THE TENDENCY OF MALIGNANT PLEURAL MESOTHELIOMAS TO REMAIN LOCALIZED.

Nauta RJ, Osteen RT, Antman KH, Koster JK
(c/o Osteen), Brigham and Women's Hosp., 75 Francis St., Boston, MA, 02115
Ann Thorac Surg; 34(1):66-70 1982

Medical records and radiographs from 32 patients treated for diffuse, malignant pleural mesotheliomas were reviewed, and patients were classified retrospectively according to the system of Butchart and associates. Twenty-five men and 7 women were treated; the peak incidence of disease was in the sixth decade. Median survival time for the entire group was 12 mo; median survival was 34 mo for women alone and 10 mo for men alone. The proportion of men and women at each stage upon presentation was approx the same. All patients had pain or dyspnea, and some had both symptoms, but symptoms could not be correlated with stage of disease or survival. Examination of pleural fluid samples from 26 patients yielded only two definitive diagnoses of mesothelioma. Patients with epithelial tumors had a shorter survival than patients with either sarcomatous or mixed subtypes. Nineteen of the 26 patients with disease confined to one hemithorax (Stage I or II) died; 12 died without clinical evidence of progression and 1 patient died of systemic metastases. Nineteen patients died of local tumor invasion that caused respiratory obstruction and sepsis. The preponderance of men and the longer survival of women in the series may be related to occupational exposure to asbestos. Partial responses seen in 5/13 patients treated with adriamycin-containing regimens and the apparently improved survival of patients with the epithelial subtype who received adriamycin indicate effectiveness of this drug against the tumor. (11 Refs)

11. INTRATHORACIC SOFT TISSUE SARCOMAS IN CHILDREN.

Crist WM, Raney RB, Newton W, Lawrence W, Tefft M, Foulkes MA
Children's Hosp., 1601 6th Ave. South, Birmingham, AL, 35233
Cancer; 50(3):598-604 1982

Seventeen of 646 (2.6%) children registered on the Intergroup Rhabdomyosarcoma Study (IRS)-I and pilot study for IRS-II as of December 1977, had apparent intrathoracic primary soft tissue sarcomas. The primary tumor appeared to arise in the mediastinum in 10 patients, the pleura in 4, and the lung in 3. The age range was 1-20 yr (mean, 9.9 yr), and the male/female ratio was 1.8. Tumor histologic type was embryonal in seven, alveolar in five, undifferentiated in four, and extraosseous Ewing's (EOE) in one. Fourteen patients (82%) had unresectable disease at presentation, while 3 had grossly resected disease. These children were treated according to the IRS-I15 or a subsequent pilot study protocol. Nine of 15 patients (60%) completing induction therapy achieved a complete remission (CR) and 3 a partial remission (PR) (CR + PR rate 80%). Two of three patients with grossly resected disease (Groups I or II) are long term survivors (4+ yr), while only 1 of 10 (10%) who had unresectable gross residual disease after surgery (Groups III or IV) is known to be surviving free of disease more than 2 yr. We conclude that the 'group' dependent survival experience of patients with intrathoracic primaries appears similar to that observed in the IRS-I Study as a whole, but that this particular primary site is associated with advanced disease at presentation and its attendant high mortality with the treatment used. Additionally, intrathoracic primary tumors occurred in older children and were more likely to be of undifferentiated histologic types than tumors from most other primary sites. (Author abstract) (12 Refs)

12. LIPOBLASTOMA IN INFANTS AND CHILDREN.

Stringel G, Shandling B, Mancer K, Ein SH
Children's Hosp. Eastern Ontario, 401 Smyth Road, Ottawa, Ontario K1H8L1, Canada
J Pediatr Surg; 17(3):277-280 1982

Lipoblastoma and lipoblastomatosis are rare benign tumors of embryonal fat with a tendency to local invasion but not to metastasize. To date, there have been 60 cases described in the international literature. There has never been a report in a child older than 8 yr. The main clinical characteristics are the presentation, usually below 3 yr of age, the rapid growth of the mass and the peripheral location, mainly in the extremities. Although CT scan may show a fatty tumor, there is no single test to make the differential diagnosis (which includes benign lipoma, liposarcoma and myxoliposarcoma) and the treatment should be based on clinical findings. We have treated four patients with this condition. Two were intrathoracic, one was intraperitoneal, and one was a tumor of the upper arm. All presented as rapidly-growing tumors and were clinically assumed to be malignant. We recommend complete but conservative excision of the tumor; there are reported recurrences after inadequate excision. This is a benign tumor and radical cancer surgery should be avoided. (Author abstract) (9 Refs)

13. ALVEOLAR RHABDOMYOSARCOMA ASSOCIATED WITH DISSEMINATED INTRAVASCULAR COAGULATION AND A UNIQUE FACTOR VIII ANTIGEN.

Butler WM, Scialla SJ, Taylor HG
Univ. South Carolina, Sch. Medicine, 3301 Harden St., Columbia, SC, 29203
Arch Intern Med; 142(7):1379-1380 1982

Disseminated intravascular coagulation (DIC) has been described in association with many tumors. We describe a patient with alveolar rhabdomyosarcoma in whom DIC developed with the initiation of chemotherapy. The patient achieved complete remission of his tumor for 14 mo. An unusual factor VIII antigen was identified on crossed immunoelectrophoresis that was present at initial diagnosis, disappeared with remission, and returned with relapse of the tumor. (Author abstract) (14 Refs)

14. RADIATION-INDUCED SARCOMA OF BONE: CLINICAL AND RADIOGRAPHIC FINDINGS IN 43 PATIENTS IRRADIATED FOR SOFT TISSUE NEOPLASMS.

Smith J
Dept. Diagnostic Radiology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY
Clin Radiol; 33(2):205-221 1982

Sarcomas rarely follow irradiation of benign lesions of bone as the dangers of this form of therapy is well recognized. Forty-three patients with soft tissue neoplasms - mainly carcinoma - were irradiated and developed sarcomas in the radiation field. Twenty-four of these patients were seen at this center in the last decade, a considerable increase compared to earlier yr. Radiation osteitis may indicate the nature of the tumor but was only present in 50%. A purely lytic or purely sclerotic pattern was commoner than a mixed lytic and sclerotic appearance. CT scan, bone scan and angiography were helpful in delineating disease but did not assist in diagnosing the type of tumor. A tumor arising within the irradiated field is an indication for biopsy. Prognosis of radiation-induced sarcomas (RIS) remains poor, only 5 of the 43 patients survived 5 yr. (Author abstract) (26 Refs)

CHEMOTHERAPY

15. CHEMOTHERAPY OF SARCOMATA.

Wiltshaw E, McKinna JA, Harmer CL, Gowing N
Joint Sarcoma Unit, Royal Marsden Hosp., London SW3, England
J R Soc Med; 75(6):385-387 1982

Role of chemotherapy in the proper management of alveolar soft part sarcoma is discussed. One hundred and eighty-three patients with sarcoma underwent chemotherapy regimens based on methotrexate (MTX). Neither the overall response rate of 20-30%, nor the complete remission rate of 10-14% could have been increased despite combining MTX with other drugs including adriamycin, cyclophosphamide, dacarbazine, vincristine, and actinomycin D. Complete remission may be very long (up to 9 yr) and complete response is much more frequent in young women under the age of 30 yr with a pelvic tumor. Approx 12% of patients have a complete regression of the tumor. Partial responses are obtained in 20-30% of patients but are usually of short duration (median 6 mo). Preliminary data showed that ifosfamide (5-8 g/square meter) with mesnum, fluids, and mannitol added to protect against renal damage, induced a response rate of 38.8% in 18 patients, 7 of whom had already been exposed to other cytotoxic agents; 2 complete and 5 partial responses were observed. In some patients one of many metastases may be resistant to chemotherapy. If such a lesion is operable then it should be removed; if not, high-dose radiotherapy should be considered. (5 Refs)

MULTIMODAL THERAPY

16. THE MANAGEMENT OF LOCALLY RECURRENT SOFT-TISSUE SARCOMA.

Giuliano AE, Eilber FR, Morton DL
54-140 CHS, Univ. California Los Angeles Sch. Medicine, Los Angeles, CA, 90024
Ann Surg; 196(1):87-91 1982

Thirty-eight patients with locally recurrent soft-tissue sarcomas of various histologic types and grades but with no evidence of distant metastases were studied. Twenty-five patients had more than one local recurrence. Most primary lesions had been initially treated by simple or 'wide local' excision with removal of little or no surrounding normal tissue. The most common site for recurrence was the extremity. Sixteen patients received preoperative intra-arterial Adriamycin (30 mg/day x 3 days) and radiation therapy (3,500 R over 10 days) followed by wide resection of the recurrence and the previous operative field. Tumor-free margins were confirmed microscopically. There were no subsequent local recurrences in this group. In five patients, no postoperative therapy was used, and the resection was incomplete because of proximity to vital structures. In these patients, postoperative radiation therapy and chemotherapy could not prevent continued local tumor progression. Amputation for control of local recurrence was necessary in only three patients. The remaining patients underwent either resection alone or resection in combination with postoperative radiation and/or chemotherapy. Life-table analysis of these 38 patients shows an unexpectedly high predicted 5-yr survival of 76% (87% for patients whose local recurrence could be completely resected). This high salvage rate clearly justifies aggressive treatment for patients with local recurrences alone and warrants attempts to salvage functional extremities. (Author abstract) (11 Refs)

17. RADIOTHERAPY WITH SURGERY FOR SALVAGE FOR PERIPHERAL EWING'S SARCOMA (MEETING ABSTRACT).

Kliman M, Harwood AR, Fornasier VL
No affiliation given
J Bone Joint Surg [Br]; 64(2):258 1982

The authors studied the survival, local recurrence rates and limb function of 22 patients with Ewing's sarcoma peripheral to the elbow or knee. The primary treatment had consisted of moderate dose radiotherapy, surgery being reserved for the salvage of failures of irradiation. Five of the 22 patients had had a local recurrence after irradiation: two died, two had been salvaged (one by amputation and one by re-irradiation), and one patient had had a palliative amputation. Eleven patients were alive and well with an average follow-up of eight years, nine having been controlled by primary irradiation and two by salvage irradiation or surgery. Eleven had died of metastases. The functional results of treatment were assessed in the 11 survivors, of whom nine had normal function, one had a significant leg length discrepancy, and one had had an amputation. No radiation-induced sarcomata had been observed. They concluded that moderate doses of radiation with surgery for salvage provided a good rate of cure with an excellent functional result. (no Refs)

18. OSTEOGENIC SARCOMA - RESULTS OF TREATMENT IN 18 CHILDREN.

Malek T, Szymik S
Klinika Chirurgii Dzieciecej, Instytut Pediatrii AM, ul. Wielicka 265, Krakow, Poland
Pol Przegl Chir; 53(12):1137-1141 1981

The treatment of 18 children (5-16 yr old, av age 11.5 yr) with osteogenic sarcoma is reported. The tumor was located in the femur in 11 patients, in the tibia or fibula in 4, in the pelvic bones, in the radius and ulna, and in the humerus in 1 each. The interval between the onset of the first symptoms and diagnosis was 2-24 wk. Eight of the 18 patients were subjected to palliative and symptomatic treatment only, because their parents refused adequate therapy, or accepted it at an advanced stage only. All eight patients developed metastases within 0-12 mo and died within 2-14 mo (av 8 mo). Five other patients were subjected to surgery (amputation) and single-agent chemotherapy. Three of these five patients developed metastases within 1-6 mo and died after 5, 8 and 10 mo, respectively, while the two others have been alive for 64 and 84 mo, respectively. Five other patients were subjected to amputation and polychemotherapy. Four of them developed metastases after 5-101 mo and three of them died after 15, 19 and 21 mo, respectively. The two other patients have been alive for 126 and 20 mo, respectively. (13 Refs) (In POL)

CASE REPORTS

19. POSTIRRADITATION MALIGNANT FIBROUS HISTIOCYTOMA. A CASE REPORT WITH A REVIEW OF POSTIRRADIATION SARCOMA IN THE JAPANESE LITERATURE.

Okazaki M, Inose S, Ogata K, Narita H
Dept. Dermatology, Miyazaki Medical Coll., Kiyotake, Miyazaki, 889-16, Japan
J Dermatol (Tokyo); 9(1):37-44 1982

Experience with a case of postirradiation malignant fibrous histiocytoma (MFH) observed in a 80-yr-old Japanese woman is reported, and postirradiation sarcoma described in the Japanese literature is reviewed. The patient was referred to the hospital because of a painful tumor which had developed after radiation therapy 1.5 yr prior to admission on the right side of the neck. Approx 50 yr prior to admission, the patient had been treated surgically and with radiation for what was believed to be lymphadenitis colli tuberculosa. Fifteen yr prior to admission, the irradiated area became erythematous and swollen. Radiation therapy was administered for 1 yr. The total dosage and the source of radiation were not known. Two yr prior to admission, the irradiated area became ulcerated. Skin graft was performed successfully. The area again enlarged and became painful. Cryosurgery was performed in order to kill the pain after 4,000 rad of 60 Co was ineffective. Pneumonia developed leading to death. It could not be established whether the second lesion was radiodermatitis, a malignant tumor originating from radiodermatitis, or a recurrence of lymphadenitis colli tuberculosa. Although the details of the radiation therapy were not available, it is significant that the treatment continued for 1 yr, and possibly represented overtreatement. The second treatment may have played the greater role in the induction of postirradiation MFH. If a more radical operation could not have been performed at first admission, symptomatic relief of pain would have been the only treatment of choice. (29 Refs)

20. INTRACRANIAL LIPOMA WITH HEMATOPOIETIC ELEMENTS (MYELOLIPOMA). REPORT OF A CASE WITH SUCCESSFUL SURGICAL RESECTION.

Nalesnik MA, Martinez AJ, Heros RC
Dept. Pathology, Univ. Pittsburgh Sch. Medicine, Pittsburgh, PA, 15213
Cancer; 50(2):295-299 1982

A 74-yr-old woman presented with a symptomatic posterior fossa mass which was successfully resected. histologic examination revealed that the tumor was composed primarily of adipose and hematopoietic tissues warranting the diagnosis of myelolipoma. This represents the first case report of intracranial myelolipoma as well as the first reported successful surgical resection of this tumor in this location. A review of this subject indicates that the term myelolipoma denotes tumors with at least two different etiologies. The first represents metaplastic differentiation within a lipoma and the second appears to be a response of adrenal tissue to noxious stimuli. (Author abstract) (15 Refs)

21. MALIGNANT ANGIOENDOTHELIOMATOSIS PROLIFERANS TREATED WITH DOXORUBICIN.

Keahey TM, Guerry D, Tuthill RJ, Bondi EE
Dept. Dermatology, Hosp. Univ. Pennsylvania, Philadelphia, PA
Arch Dermatol; 118(7):512-514 1982

An 84-yr-old man was examined for progressive pain, edema, and infiltrating skin lesions on his lower extremities. A skin biopsy specimen confirmed the suspected diagnosis of angioendotheliomatosis proliferans. The clinical course and histologic changes suggested the malignant form of this disease. Treatment with intravenous doxorubicin hydrochloride caused a complete clinical remission. (Author abstract) (16 Refs)

SELECTED PRE-CLINICAL STUDIES

22. INTERFERON ENHANCEMENT OF THE INVASIVE CAPACITY OF EWING SARCOMA CELLS IN VITRO.

Siegal GP, Thorgeirsson UP, Russo RG, Wallace DM, Liotta LA, Berger SL
(c/o Berger) Lab. Pathophysiology, NCI, NIH, Bethesda, MD, 20205
Proc Natl Acad Sci USA; 79(13):4064-4068 1982

The ability of interferons to reduce cell proliferation in vitro and in vivo is a well-studied phenomenon. To extend such observations, the effect of interferons on the invasiveness in vitro of human malignant cells derived from a Ewing sarcoma was evaluated. Two related parameters were examined: (i) production of Type IV (basement membrane) collagenase and (ii) penetration of human amnion basement membrane and collagenous stroma. After 6 days of treatment with crude fibroblast interferon, leukocyte interferon, or lymphoblastoid interferon at 100 units/ml in serum-free medium, Type IV collagenase levels increased two- to four-fold per cell relative to those of untreated controls. With homogeneous fibroblast and lymphoblastoid interferons, a two-fold elevation in Type IV collagenase was detected after 2 days, with further increases, occasionally dramatic, occurring on the 4th and 6th day of treatment. The ability of Ewing sarcoma cells to invade human amnion connective tissue was measured after 6 days of treatment with various interferons. Relative to the behavior of untreated controls, crude leukocyte interferon, homogeneous lymphoblastoid interferon, and homogeneous fibroblast interferon at 100 units/ml augmented invasiveness 3-, 17-and 22-fold, respectively, when cells were allowed 4 days in which to traverse the amnion. When untreated cells were exposed simultaneously to the amnion and to homogeneous lymphoblastoid or fibroblast interferon, a four- to five-fold increase in invasiveness above control levels was observed in 2 days. These data emphasize the complexity of interferon-induced phenomena. In any overview, the effects of interferon on both the tumor cell and the host must be considered. (Author abstract) (27 Refs)

23. PRODUCTION AND CHARACTERIZATION OF A T CELL HYBRIDOMA SECRETING A SUPPRESSOR FACTOR SPECIFIC FOR A METHYLCHOLANTHRENE-INDUCED FIBROSARCOMA.

Cory JM
University of Washington, Seattle, WA
Diss Abstr Int [B]; 42(12,pt1):4738-B 1982

A T cell hybridoma was produced by fusion of thymoma line BW5147 and thymus cells from mice bearing methylcholanthrene (MCA)-induced fibrosarcoma, MCA-1490. Following growth in selective medium, hybrid cell culture supernatants were tested for suppressive activity in a 51Cr-release assay with MCA-1490 target cells and lymph node cells from mice immune to MCA-1490. Suppressive line 182 was cloned by limiting dilution. An active clone, I82K54, possessed specificity in suppressing immune responses to MCA-1490, but not to syngeneic MCA-induced fibrosarcoma, MCA-1490, but not to syngeneic MCA-induced fibrosarcoma, MCA-1511, nor H-2 antigens. Hybridoma I82K54 culture supernatant was tested for suppressive activity in vivo following injection into naive mice along with immune lymph node cells and viable tumor cells. In these tumor neutralization assays I82K54 culture supernatant, but not culture supernatant of BW5147, suppressed the rejection of MCA-1490. Hybridoma I82K54 remained active after continuous culture for more than three months. It was adapted to growth in ascites form, and ascites fluid from mice bearing I82K54 was active in the tumor neutralization assay. I82K54 ascites fluid was also active in an in vivo assay designed to assess whether suppression of the primary immunization to tumor antigen occurred; hybridoma ascites fluid suppressed the immunization to MCA-1490 but not to MCA-1511. Characterization of the effector cells in tumor neutralization assays showed them to carry or be dependent upon cells bearing Thyl.2 and Lytl antigens. (no Refs)

24. ESTABLISHMENT OF A HUMAN LEIOMYOSARCOMA CELL LINE (MEETING ABSTRACT).

Harbell JW, Mercill DB, Jones NR, Woods LK
Department of Clinical Investigation, Fitzsimons Army Medical Center, Aurora, CO, 80045
In Vitro; 18(3,part2):295 1982

A new cell line (FAMC 151) was established from the omental metastasis of a uterine leiomyosarcoma in a 60 year old caucasian female. This line grew rapidly as an attached and suspension culture in GEM 1717 supplemented with either 10% fetal bovine or newborn bovine serum. Chromosome analysis revealed a new diploid pattern (mode 45) and the isoenzymes matched those of the patient. This line grew rapaciously when implanted into either male or female athymic nude mice and the resulting solid tumors were histologically classed as poorly differentiated sarcomas. Ultrastructurally, the heterotransplants closely resembled the original tumor specimen, showing bizarre mitochondria, sparse myofilaments and no desmosomes. FAMC 151N, established from a heterotransplant, was very similar in growth rate, morphology and karyotype to the parent line. Of particular interest was the marked sensitivity of FAMC 151 to most classes of current chemotherapeutic agents (alkylating, antibiotic, antimetabolite and spindle poisons) in in vitro assays. Its very rapid growth both in vitro and as heterotransplants combined with its sensitivity to known active chemotherapeutic agents suggest that this line may be useful in screening new drugs for activity against human sarcomas. (no Refs)

25. EXPERIMENTAL HEMATOGENIC METASTASES OF MALIGNANT SCHWANNOMA IN THE RAT.

Mandybur TI, Brunner GD
Dept. Pathology and Lab. Medicine, Univ. Cincinnati, Coll. Medicine, 231 Bethesda Ave., Cincinnati, OH, 45267
Acta Neuropathol (Berl); 57(2/3):151-157 1982

The development, growth patterns and morphology of metastatic schwannomas was studied in adult Lewis rats injected iv with malignant cells from an ethylnitrosourea-induced malignant schwannoma. Groups of 10 rats received doses of 0.1, 0.5, 1.0, 5.0, 10, and 100 x 10(5) cells, respectively. Mortality before day 34 was one each in groups with the lowest doses, and 4, 5 and 10 in those with the highest doses, respectively. Lung metastases developed in all animals in all treated groups, but they varied as to location, form, size and frequency that partly depended upon the cell dose. Lung metastases were in the form of microscopic and macroscopic peripheral subpleural tumors, central peribronchial and perivascular tumors, parenchymal tumors, diffuse intraalveolar infiltrates and intravascular tumor emboli. The variety of metastatic tumors was greater in groups that received the higher cell doses. Metastatic tumors of the pericardium were also found in 36 rats. In 13 rats metastatic tumors occurred in kidney, heart, ovary, adrenal gland, intestine, or skeletal muscles. While more organs became involved as cell dose increased, no tumors developed in the brain. (8 Refs)

26. HISTOLOGICAL CHANGES DURING REGRESSION INDUCED BY RETINOIC ACID IN A TRANSPLANTABLE RAT CHONDROSARCOMA.

Ettlin R, Galli B, Kistler A
Biological Pharmaceutical Res. Dept., F. Hoffmann-La Roche and Co. Ltd., Ch-4002 Basle, Switzerland
Virchows Arch [Pathol Anat]; 396(1):1-8 1982

Daily oral treatment with retinoic acid (100 mg/kg bodyweight) induced regression of a transplantable rat chondrosarcoma. In a previous biochemical investigation we have shown that the tissue breakdown is preceded by the loss of proteoglycan. The present study describes the histological changes induced by retinoic acid. A decrease in the intensity of metachromatic staining with toluidine blue was noted already after 1 day and the discoloration was almost complete after 4 days correlating with the loss of proteoglycan. Especially in the perichondrium there was a rapid proliferation of fibroblasts and monocytes. Osteoclast-like cells were missing, but tumor nodules were arroded and split up by penetrating perichondrium. After 4 days of treatment larger necrotic areas were found, initially in the center of tumor nodules only. In other areas the majority of tumorous chondroblasts survived. Tumor nodules appeared partly mesenchyma-like with some fibroblast-like cells suggesting a dedifferentiation of chondroblasts by retinoic acid. We believe that tumor regression induced by retinoic acid involved proteoglycan degradation by chondroblasts themselves and chondroclast-like activity of monocytes and fibroblasts. (Author abstract) (23 Refs)

REVIEWS

27. THE EPIDEMIC OF ACQUIRED IMMUNE DYSFUNCTION IN HOMOSEXUAL MEN AND ITS SEQUELAE. OPPORTUNISTIC INFECTIONS, KAPOSI'S SARCOMA, AND OTHER MALIGNANCIES: AN UPDATE AND INTERPRETATION.

Levine AS
Div. Cancer Treatment, NCI, Building 31, Room 3A49, Bethesda, MD, 20205
Cancer Treat Rep; 66(6):1391-1395 1982

Incidence of pneumocystis carinii pneumonia (PCP) and Kaposi's sarcoma (KS), survival, risk factors, immune dysfunction, genetics, course of the illness, and treatment are reviewed. Three-hundred patients (290 men) with a new syndrome have been reported; 135 had CP, 115 KS, 28 both diseases, and 22 other opportunistic infections. The mortality rate has been 40%; however, greater than 70% of patients with earliest diagnosed cases have died. Eighty-five percent of the 300 patients have been less than 45 yr old, with a median of 35 yr. Of the 290 men, 242 have been homosexual or bisexual. Ninety-eight percent of the homosexual male patients have had a history of exposure to nitrites, mainly amyl or butyl inhalants, but no one nitrite preparation is over-reported, suggesting that whatever the involvement of nitrites in the syndrome is not due to a contaminant. A very extensive case-control study will be required to sort out the relative contributions of nitrites and transmissible microbes; independent risk factors may be impossible to be identified. The breadth of immune defects observed in the syndrome explains the broad gap in host defenses against all classes of microbes that are associated with cellular immunity. The possibility exists that once the patients have become immunodeficient, a considerable reactivation of the cytomegalovirus infection occurs. As many as one third of KS patients in the epidemic appear to be developing other malignancies, as occurs with other KS patients, including the sporadic and endemic patients and the patients in renal transplant recipients or in patients receiving chronic immunosuppressive therapy. (17 Refs)

AUTHOR INDEX WITH CITATION NUMBERS

Antman KH 10
Berger SL 22
Bertoni F 2
Bondi EE 21
Boriani S 2
Brannon RB 4
Brunner GD 25
Buimovici-Klein 5
Butler WM 13
Campanacci M 2
Chahinian AP 7
Chew FS 1
Cohen B 7
Corson JM 8
Corson JM 9
Cory JM 23
Crist WM 11
Dan S 7
Efremidis A 7
Efremidis SC 7
Eilber FR 16
Ein SH 12
Enzinger FM 3
Enzinger FM 4
Ettlin R 26
Fornasier VL 17
Foulkes MA 11
Friedman-Kien A 5
Galli B 26
Giuliano AE 16
Gowing N 15
Guerry D 21
Harbell JW 24
Harmer CL 15
Harwood AR 17
Heros RC 20
Hickey WF 9
Hudson TM 1
Inoue S 19
Jones NR 24
Keahey TM 21
Kim KS 5
Kistler A 26
Kliman M 17
Koster JK 10
Kurtz RC 6
Laubenstein LJ 5
Laus M 2
Lawrence W 11
Levine AS 27
Lightdale CJ 6
Liotta LA 22
Malek T 18
Mancer K 12
Mandybur TI 25
Marmor M 5
Martinez AJ 20
McKinna JA 15
Mercill DB 24
Morton DL 16
Myskowski P 6
Nalesnik MA 20
Narita H 19
Nauta RJ 10
Newton W 11
Ogata K 19
Okazaki M 19
Osteen RT 10
Pinkus GS 8
Rabinowitz JG 7
Raney RB 11
Rubinstein P 5
Russo RG 22
Safai B 6
Saltz RK 6
Scialla SJ 13
Shandling B 12
Shmookler BM 4
Siegal GP 22
Smith J 14
Spigland I 5
Stahl R 5
Stringel G 12
Szymik S 18
Taylor HG 13
Tefft M 11
Teirstein AS 7
Thorgeirsson UP 22
Tuthill RJ 21
Urmacher C 6
Varela-Duran J 3
Wallace DM 22
Warhol MJ 9
Wiltshaw E 15
Woods LK 24
Zolla-Pazner S 5

VIDEOTAPES

ON CURRENT TOPICS IN CANCER RESEARCH

A pilot project of the International Cancer Research Data Bank (ICRDB) Program of the National Cancer Institute

Three series are available . . .

THE RELATION OF CARCINOGEN ACTION ON DNA TO CELL TRANSFORMATION

PETER MAGEE Fels Research Institute	*Keynote Address*	**#VK01** **28 min.**
JAMES K. SELKIRK Oak Ridge National Laboratories	*Metabolic Activation and Macromolecular Binding of Chemical Carcinogens*	**#VK02** **51 min.**
PHILIP C. HANAWALT Stanford University	*Cellular Responses to Damaged DNA*	**#VK03** **54 min.**
CHARLES HEIDELBERGER University of Southern California	*Mutagenesis and Oncogenic Transformation of Mouse Embryo Cells*	**#VK04** **54 min.**
FRED RAPP Milton S. Hershey Medical Center	*The Interaction of Herpesviruses and Host Cells Leading to Latency or Transformation*	**#VK05** **52 min.**
	Panel Discussion	**#VK06** **31 min.**

MECHANISMS OF METASTASIS

ISAIAH FIDLER Frederick Cancer Research Center	*The Heterogeneous Nature of Cancer Metastasis and Implications for Therapy*	**#VB01** **47 min.**
GEORGE POSTE Smith, Kline and French Laboratories	*Phenotypic Analysis of Metastatic Cell Populations*	**#VB02** **42 min.**
LANCE LIOTTA National Cancer Institute	*Tumor Cell Invasion of Basement Membranes and Extracellular Matrices*	**#VB03** **33 min.**
EVERETT SUGARBAKER Miami Cancer Institute	*Some Clinical Characteristics of Metastasis in Man*	**#VB04** **41 min.**

AUTOMATED CYTOLOGY

Part One: Principles and Techniques	**#VB05** **56 min.**
Part Two: Biological Applications	**#VB06** **52 min.**

VIDEOTAPES ON CURRENT TOPICS IN CANCER RESEARCH are in the 3/4" U-matic format and can be played on video equipment which accepts the NTSC standard (the standard for videotapes produced in the U.S.). The two Automated Cytology tapes (#VB05 and #VB06) are also available in the PAL format.

The videotapes are available on a loan basis. If you would like to schedule viewing for your group, or for more information, please write to:

Videotape Coordinator
ICRDB Program
Westwood Building, Room 10A18
Bethesda, MD 20205

Please specify three choices for viewing dates, and the tapes desired.

CANCER LINE

More Than Just A Fancy Name

Mention CANCERLINE to your librarian and the world's foremost collection of cancer information is at your disposal. With the help of this computerized data system, you can obtain information on the following:

Cancer Literature

The literature date base, **CANCERLIT**, allows you to survey more than 3,000 biomedical journals for information on your topic of interest. Your search will also alert you to meeting proceedings, monographs, and books published in that area. Informative abstracts averaging 200 words are provided with each citation;

Current Cancer Research

The data base **CANCERPROJ** allows you to retrieve descriptions of current work in any cancer research area. The descriptions, which state research objective, methodology, and experimental results, are supplied for projects underway in 77 countries around the world.

Cancer Therapy Protocols

The **CLINPROT** section of CANCERLINE is designed primarily for clinicians. It provides detailed summaries of currently active experimental protocols for any cancer site, agent, or type.

Ask your biomedical librarian about CANCERLINE.
CANCERLINE is sponsored by the International
Cancer Research Data Bank—a program of the
National Cancer Institute.

CANCERLINE

Keep Up with the Cancer Literature

Each Month You Can Receive Abstracts Covering Your Specialty Area

- This convenient service — called Auto SDI* — is as near as your nearest biomedical library. Discuss your research interests with the librarian who will design an appropriate search strategy.
- Abstracts of the latest published literature are searched automatically each month and those related to your interests are delivered to you on a regular basis.
- The abstracts you receive are selected from more than 4,000 monthly entries made into CANCERLIT — the extensive cancer literature data base of the National Cancer Institute.

Talk With Your Librarian About the Auto SDI Service TODAY.

---

*Auto SDI stands for Automatic Selective Dissemination of Information. It is a service provided to you, at minimal cost, by the International Cancer Research Data Bank (ICRDB) — a part of the National Cancer Institute.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1982-391-847:204

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

U.S. MAIL

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

CT 12/82/12

NCI/ICRDB/CT12 82/12

PB82-938712

ICRDB CANCERGRAM

SARCOMAS AND RELATED TUMORS

Diagnosis, Treatment

SERIES CT12 No. 82/12

DECEMBER, 1982

This Cancergram is a service of the INTERNATIONAL CANCER RESEARCH DATA BANK (ICRDB) PROGRAM of the U.S. National Cancer Institute. Every few weeks, an updated Cancergram containing abstracts of selected cancer-related articles recently published in more than 3000 journals, and dealing with the topic indicated by the above title, is sent to researchers working in this area. These researchers are identified on the basis of the description of their current research project that has been submitted to the ICRDB Program, directly or via granting agencies.

This Cancergram is prepared by the Cancer Information Dissemination and Analysis Center (CIDAC) for Diagnosis and Therapy *If this Cancergram is useful and valuable, please send your comments to the CIDAC address below, since future editions depend on user satisfaction and user needs:*

CIDAC FOR DIAGNOSIS AND THERAPY
M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
6723 BERTNER AVENUE
HOUSTON, TX 77030

Consulting reviewer:
ROBERT S. BENJAMIN, M.D.
BOH-SENG YAP, M.D.

NEWARK PUBLIC LIBRARY
DEC 20
U. S. GOVT. PUB
DEPOSITORY 376

In this issue:

- DIAGNOSIS 1-14
- CHEMOTHERAPY 15
- RADIOTHERAPY 16-17
- OTHER THERAPEUTIC MODALITIES 18
- MULTIMODAL THERAPY 19-21
- CASE REPORTS 22-23
- SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY 24-25
- REVIEWS 26

DIAGNOSIS

1. EVIDENCE SUPPORTING NEURAL CREST ORIGIN OF AN ALVEOLAR SOFT PART SARCOMA. AN ULTRASTRUCTURAL STUDY.

Mathew T

Dept. Pathology, Natl. Univ. Singapore, Singapore General Hosp., Outram Road, Singapore 0316, Singapore

Cancer; 50(3):507-514 1982

A case of an alveolar soft part sarcoma was studied electron microscopically. This showed tumor cells separated by external lamina that incorporated desmosome-like structures. Well defined basal lamina separated several cells from underlying endothelial cells by a zone of tissue composed predominantly of fibrous long-spacing collagen. A unique finding was the presence within several tumor cells of well defined myelin sheaths and myelinated axons. Apart from various other intracellular organelles some of the cells contained closely aggregated fine filamentous structures: the so-called 'angulate bodies.' All these findings are interpreted as evidence for a tumor showing marked Schwann cell differentiation, and therefore, it is sug-

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service • National Institutes of Health • National Cancer Institute

HE 20.3173/2:

gested that alveolar soft part sarcoma is histogenetically a neoplasm of the neural crest. (Author abstract) (25 Refs)

2. PROGNOSTIC FACTORS OF 28 LEIOMYOSARCOMAS OF THE SMALL INTESTINE.

Chiotasso PJ, Fazio VW
(c/o Fazio) Dept. Colon and Rectal Surgery, Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH, 44106
Surg Gynecol Obstet; 155(2):197-202 1982

Leiomyosarcoma of the small intestine is a rare tumor, comprising 0.2% of all malignant tumors of the gastrointestinal tract. The charts of 28 patients were reviewed; the outstanding characteristics were a slow growing, but sometimes, fast growing locally malignant lesion, more than half being in the ileum. Arteriograms are better than a roentgenographic series of the small intestine for diagnosis. Adjuvant therapy is probably of no benefit. Between histologically benign leiomyomas and malignant leiomyosarcomas, there is a third group with histologic manifestations of malignancy and good prognosis, 7 of 10 patients surviving to 5 yr. To define this group, we need an association of these three factors, duration of symptoms for more than 1 yr, no metastasis and a tumor diameter of less than 9 centimeters. (Author abstract) (8 Refs)

3. GASTRIC LEIOMYOSARCOMAS.

Nauert TC, Zornoza J, Ordonez N
(c/o Zornoza) Dept. Diagnostic Radiology, Univ. Texas, M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
AJR; 139(2):291-297 1982

A retrospective study was made of 28 patients who had gastric leiomyosarcomas to identify histologic patterns and radiologic appearances. Three histologic patterns were identified: spindle cell, epithelioid, and pleomorphic. The histopathologic type of tumor did not correlate with the size, the grade of malignancy, or the location of the mass within the stomach. All but one tumor presented as a submucosal mass by barium contrast examination. Ulceration was present in 17 of 28 patients. Sonographic examination in six patients and computed tomography (CT) in one provided further information about the degree of extragastric extension. Sonographically the masses were echogenic in three patients, hypoechoic in two, and anechoic in one. Surgery remains the only curative therapy and surgical excision is recommended regardless of mass size. (Author abstract) (17 Refs)

4. VASCULAR TUMORS OF SOMATIC SOFT TISSUES: A XERORADIOGRAPHIC EVALUATION.

Nessi R, Gilardoni L, Gattoni F, Mazzoni R, Coopmans de Yoldi G
Istituto di Scienze Radiologiche dell'Universita, Via G. Venezian, 1, 20133 Milan, Italy
Radiol Med (Torino); 68(7/8):545-553 1982

The xeroradiographic features of 34 vascular soft-tissue tumors were evaluated retrospectively. The tumors included 25 benign and 9 malignant tumors, 11 and 8 of which, respectively, were identified histologically. The malignant tumors were diagnosed histologically as hemangiopericytomas (5), hemangioendotheliomas (2) and lymphangiosarcoma (1). The benign vascular tumors (hemangiomas, lymphangiomas and mixed tumors) often appears at xeroradiography as irregular nodes with granular or vermiform structure due to the dilatation of the small vessels. Lymphangiomas may also contain rounded or ovoid opacities due to the presence of lymphatic cysts. Malignant vascular tumors were found to be always radiopaque masses, with irregular borders and infiltration of the surrounding structures. All eight malignant tumors which were evaluable by xeroradiography were homogenous; 3/8 had regular shapes, 2/8 were smaller than 5 cm, all had irregular margins and showed infiltrations. (22 Refs) (In ITA)

5. STANDARD CHEST X-RAY AND WHOLE-LUNG TOMOGRAPHY FOR THE SEARCH OF METASTASES FROM BONE AND SOFT TISSUES SARCOMAS. AN EXPERIENCE ON 132 CONSECUTIVE CASES.

Guzzon A, Gardani G, Bergonzi S, ViagViganotti G, Bellomo AM, Macchi I
Istituto Nazionale Tumori, Via Venezian 1, 20133 Milano, Italy
Tumori; 68(3):235-239 1982

In recent years whole lung tomography (WLT) has been considered mandatory in the staging of some neoplastic diseases, particularly of soft tissues and bone tumors. Since WLT is an exacting roentgen examination, its usefulness was evaluated by analyzing 132 consecutive patients submitted to orthogonal chest roentgenograms and WLT, from January 1979 to October 1981 at the National Cancer Institute of Milan. A comparison between WLT and traditional chest x-ray examination was performed in order to evaluate how much tomography is significantly useful in improving diagnosis of lung metastases. From this analysis, the authors conclude that WLT is generally unnecessary when chest roentgenograms are negative, whereas it is useful when single or multiple lung metastases are already evident by traditional x-ray examination. In these cases WLT allows a more accurate identification of the metastases from the point of view of their number and site, which is important not only for the treatment choice but also for the check of its effectiveness. (Author abstract) (7 Refs) (In ITA)

6. PROGNOSTIC FACTORS IN CHONDROSARCOMA. A COMPARATIVE STUDY OF CELLULAR DNA CONTENT AND CLINICOPATHOLOGIC FEATURES.

Kreicbergs A, Boquist L, Borssen B, Larsson SE
Dept. Orthopedic Surgery, Karolinska Hosp., S-104 01 Stockholm, Sweden
Cancer; 50(3):577-583 1982

In a retrospective study of 45 surgically treated chondrosarcomas, the prognostic significance of the cellular DNA content and different clinicopathologic factors was analyzed both separately and in combination. The relationship between these parameters was also investigated. Diploid (normal DNA content) chondrosarcomas were associated with a significantly (p less than 0.001) higher 10-yr survival rate than hyperploid (abnormally increased DNA content) chondrosarcomas. Apart from ploidy, factors such as tumor size, tumor location and tumor grade also proved to be of prognostic importance. However, patients with diploid tumors had a better prognosis than those with hyperploid tumors, almost regardless of location, size, grade or even treatment. Nevertheless, additional prognostic information could be obtained by combining ploidy with size, location and grade of the tumors. Ploidy and treatment were significantly related to the 10-yr recurrence rate. No statistical relationship could be demonstrated between ploidy and other prognostic factors. A strong correlation (p less than 0.001) was, however, found between location and size of the tumors. Thus, distal tumors were significantly smaller and, moreover associated with a better prognosis than axial tumors. The results indicate that ploidy probably is the best predictor of the clinical course in chondrosarcoma. While tumor location and size may be assumed to determine the conditions for radical surgery, ploidy and grade seem to reflect the inherent biological malignancy in chondrosarcoma. Consideration of all these factors seems to provide not only valuable prognostic information, but also guidelines for treatment. (Author abstract) (17 Refs)

7. EPIPHYSEAL CHONDROBLASTOMA: CLINICAL AND ANATOMIC RADIOLOGICAL ASPECTS.

Priolo F, Carlesimo M, Consalvo C, De Franco A
Istituto di Radiologia, Policlinico 'A. Gemelli', Largo A. Gemelli, 8, 00168 Rome, Italy
Radiol Med (Torino); 68(7/8):555-560 1982

The clinical, radiological, and histological features of epiphyseal chondroblastoma were studied in 14 patients (11 men and 3 women) with such tumors. The incidence was found to be highest during the second decade of life. Pain was present in almost all cases and was of long duration, but functional limitation was seen only in those patients in whom the joint surfaces were affected. The results of laboratory tests were nonspecific. The femur, tibia and humerus combined were affected in 70% of all patients. The lesions were almost always epiphyseal or apophysial, while metaphyseal location was very rare. Roundish or oval osteolysis was seen radiologically in the epiphyseal and apophyseal tumors of the long bones. Pathological fractures were not seen. The scintigraphic and thermographic findings were nonspecific. Increased uptake seen during scintigraphy was due to reactive peritumoral sclerosis. The histological examinations revealed large numbers of round and mononuclear cells, polynuclear cells with macrophage and chondroblast activity, differentiation and chondroid development in the round mononuclear cells, and cellular and intercellular calcifications. (28 Refs) (In ITA)

8. ULTRASTRUCTURAL STUDY OF CONVENTIONAL CHONDROSARCOMAS AND MYXOID- AND MESENCHYMAL-CHONDROSARCOMAS.

Martinez-Tello FJ, Navas-Palacios JJ
Departamento da Anatomia Patologica, Ciudad Sanitaria de la Seguirdad Social '1 de Octubre', Carretera de Andalucia, Km. 5,5, Madrid, Spain
Virchows Arch [Pathol Anat]; 396(2):197-211 1982

Five cases of conventional chondrosarcomas (CS) of graded malignancy, three cases of myxoid CS. and two cases of mesenchymal CS were studied by electron-microscopy. The chondrocyte like tumor cells of conventional CS. were characterized by: an ovoid shape, eccentric nucleus, abundant endoplasmic reticulum with dilated cisternae of RER; cytoplasmic glycogen, lipid droplets, and filaments plus numerous thin cytoplasmic projections. The histologically high grade tumors showed fewer cytoplasmic organelles, bizarre nuclei and more prominent nucleoli than the better differentiated ones. The tumor cells of myxoid CS were chiefly fusiform. The cells frequently presented a pattern of rows with good cellular cohesion, and scanty cytoplasmic projections. The most prominent cytoplasmic feature was a conspicuous RER. Abundant cytoplasmic filaments and cytoplasmic glycogen were also observed. The undifferentiated areas of the mesenchymal CS showed primitive mesenchymal cells with rounded nuclei, and scanty cytoplasm which was poor in organelles and glycogen. The cytoplasmic membranes were very cohesive and cytoplasmic projections were not present. Scanty cytoplasmic filaments and conspicuous desmosome like junctions were observed. The intercellular matrix of conventional and myxoid CS consisted of fibrils, glycosaminoglycan granules and collagen fibers. In the undifferentiated zones of the mesenchymal CS the intercellular matrix was very scanty and did not contain collagen fibrils. The more immature cells correspond to the small undifferentiated cells of mesenchymal chondrosarcoma. (Author abstract) (46 Refs)

9. MALIGNANT FIBROUS HISTIOCYTOMA. CYTOLOGIC, LIGHT MICROSCOPIC AND ULTRASTRUCTURAL STUDIES.

Kim K, Goldblatt PJ
Dept. Pathology, Medical Coll. Ohio, C.S. 10008, Toledo, OH, 43699
Acta Cytol (Baltimore); 26(4):507-511 1982

Studies of the cytologic, light-microscopic and electron-microscopic features of three malignant fibrous histiocytomas (MFH) confirmed the presence of histiocyte-like and fibroblast-like cells. The ultrastructural features suggest that the neoplasm possibly originates in undifferentiated mesenchymal cells that are capable of differentiating into histiocytic and fibroblastic cells. Cytologic features seen in smears obtained by thin needle aspiration included loose aggregates of markedly pleomorphic, elongated cells, histiocyte-like cells and isolated bizarre giant cells. Phosphotungstic acid hematoxylin (PTAH) and oil red O staining of air-dried smears were helpful in differentiating MFH from pleomorphic variants of liposarcoma and rhabdomyosarcoma. (Author abstract) (10 Refs)

10. COMPUTED TOMOGRAPHY IN MALIGNANT FIBROUS HISTIOCYTOMA.

Paling MR, Hyams DM
Diagnostic Radiology Dept., NIH, Clinical Center, Building 10, Room 6S211, Bethesda, MD, 20205
J Comput Assist Tomogr; 6(4):785-788 1982

The computed tomographic findings in 11 cases of malignant fibrous histiocytoma are discussed. The typical appearance of the eight primary tumors imaged was of a poorly marginated mass with an attenuation coefficient slightly lower than that of normal muscle. Central tumor necrosis was detected in three cases. Three of five abdominal tumors showed involvement of adjacent soft tissue structures, and one demonstrated destruction of adjacent bone. The nonspecific appearance of these tumors prevented their reliable differentiation from other soft tissue sarcomata. (Author abstract) (10 Refs)

11. BENIGN AND MALIGNANT FIBROUS HISTIOCYTOMAS OF THE SOFT TISSUES. FUNCTIONAL CHARACTERIZATION OF THE CULTURED CELLS.

Iwasaki H, Kikuchi M, Takii M, Enjoji M
Dept. Pathology, Fukuoka Univ. Sch. Medicine, 34 Nanakuma, Nishi-ku, Fukuoka 814-01, Japan
Cancer; 50(3):520-530 1982

Cell cultures were carried out from fresh tumor tissues obtained from seven cases of histiocytic tumors of the soft tissues including four of malignant fibrous histiocytoma, two of benign fibrous histiocytoma, and one of giant cell tumor of tendon sheath. The cultured cells were studied by light and electron microscopy, rosette formation for surface receptors, immune phagocytosis, and enzyme cytochemistry. The culture of each tumor revealed a mixture of histiocyte-like cells, fibroblast-like cells, and intermediate forms. Bizarre giant cells were numerous in the early cultures of malignant fibrous histiocytoma, but they were absent in the cultures of benign fibrous histiocytoma and giant cell tumor of tendon sheath. In all the seven cases the cultured cells exhibited several features characteristic of histiocytes: (1) surface receptors for the Fc-portion of immunoglobulin G; (2) surface receptors for the third component of complement; (3) immune phagocytosis of opsonized erythrocytes; and (4) lysosomal enzymes including alpha-naphthyl butyrate esterase, and acid phosphatase. These findings suggest that the histiocytic tumors of the soft tissues in discussion actually comprise the cells that have the functional property of histiocyte. The tumor cells in the surgical specimens presented essentially the same ultrastructural and enzyme histochemical characteristics as those of the cultured cells. (Author abstract) (32 Refs)

12. OSTEOSARCOMA OF THE JAW: AN ANALYTICAL STUDY OF 13 CASES.

Okuyama T, Horiuchi J, Shibuya H, Suzuki S, Takeda M
Dept. Radiology, Tokyo Medical and Dental Univ. Sch. Dentistry, Tokyo, Japan
Nippon Igaku Hoshasen Gakkai Zasshi; 42(3):281-287 1982

Clinical features and roentgenological findings of 13 patients (7 men, 6 women; 23-59 yr old) with osteosarcoma of the jaw are reported and contrasted with those of other types of osteosarcoma. The tumors were located in the mandible in 11 and maxilla in 2. Compared to patients with other types of osteosarcoma, the patients with osteosarcoma of the jaw were slightly older (av 35.8 yr old) and there was not a predominance of male patients in this series. Initial symptoms of the osteosarcoma included painless swelling or masses in the gums, lip numbness, and odontalgia. Lymph node metastasis was observed in 2/13 patients and lung metastasis was observed in 4/13. Roentgenography showed sclerotic type patterns in three cases, lytic type in six, and mixed type in four. Histologically, seven cases were osteoblastic type osteosarcoma, two were chondroblastic type, and four were fibroblastic type. Treatment consisted of surgery alone in four cases and surgery and radiotherapy in nine. The 1-, 2-, and 10-yr survival rates were 100%, 69%, and 44%, respectively. Localized wide-area resection of the tumor is the treatment of choice, but in situations where this is not possible, localized control using radiotherapy is adequate. (14 Refs) (In JPN)

13. RADIOLOGICAL ASPECTS OF 'CLASSIC' PRIMARY OSTEOSARCOMA: VALUE OF SOME RADIOLOGICAL INVESTIGATIONS. A REVIEW.

Kesselring FO, Penn W
Inst. Diagnostic Radiology, Catholic Univ., Nijmegen, The Netherlands
Diagn Imaging; 51(2):78-92 1982

In this review the radiological aspects of the primary osteosarcoma are discussed. At the same time, the value of plain films, scintigraphy, angiography and computer tomography in establishing the diagnosis of osteosarcoma is estimated by (a) delineating the anatomical extent of the lesion, (b) detecting residual or recurrent tumor after prior resection, (c) detecting metastases. (Author abstract) (34 Refs)

14. OSTEOGENIC SARCOMA METASTATIC TO THE HEART.

Seibert KA, Rettenmier CW, Waller BF, Battle WE, Levine AS, Roberts WC
(c/o Roberts), NIH, Building 10A, Room 3E-30, Bethesda, MD, 20205
Am J Med; 73(1):136-141 1982

Of 20 patients with fatal osteogenic sarcoma who underwent postmortem examination, 4 had metastases to the heart. One had recurrent ventricular tachycardia, one had anatomic evidence of aortic regurgitation due to massive periaortic neoplastic infiltration that prevented coaptation of the aortic cusps during ventricular diastole, one had massive invasion of the peri-superior vena caval tissues and typical clinical features of the superior vena caval syndrome, and one had neoplastic obstruction of the inferior vena cava as it entered the thorax. Among patients with either primary or secondary neoplasms to the heart, osteogenic sarcoma is unique because the metastases contain bone and, therefore, may be radiographically visible; they are usually large and often intracavitary. (Author abstract) (19 Refs)

CHEMOTHERAPY

15. CHEMOTHERAPY OF BONE TUMORS.

Senn HJ
Medizinische Klinik C, Kantonsspital, CH-9007 St. Gallen, Switzerland
Dtsch Med Wochenschr; 107(24):946-949 1982

Possibilities of chemotherapy of primary bone tumors are reviewed focusing on osteogenic and Ewing's sarcoma. Therapy with dactinomycin (DAC), adriamycin (ADM), cyclophosphamide (CY), ifosfamide, methotrexate (MTX), mitomycin C, and new platinum derivatives gave best results. Complete remission and partial responses achieved with chemotherapy of disseminated bone sarcomas last only 5-6 mo. The Cancer and Leukemia Group B study conducted in 1973 of patients who underwent radical surgery and adjuvant chemotherapy for osteogenic sarcoma showed that after av 2-3 yr of follow-up only 60-70% of patients survived and 40-50% after 5 yr. Survival of control patients who underwent only surgery for the same period was significantly lower, 70-80% patients died of metastases to the lung. Results of several therapy protocols with adjuvant chemotherapy of patient with surgically removed osteosarcomas are presented. Ewing's sarcoma is chemo- and radiosensitive. Intensive cytostatic treatment programs include combinations of DAC, vincristine, ADM, and CY, and sometimes also MTX and procarbazine. Optimal chemotherapy treatment of primary and recurrent Ewing's sarcoma is still not standardized. Planning of new therapy programs should include various prognostic parameters. (27 Refs) (In GER)

RADIOTHERAPY

16. BILATERAL LUNG IRRADIATION AS ADJUVANT THERAPY IN OSTEOGENIC SARCOMA.

Abbatucci JS
Centre Francois-Baclesse, route de Lion-sur-Mer, 14021 Caen Cedex, France
Sem Hop Paris; 58(28/29):1672-1677 1982

Bilateral lung irradiation as well as chemotherapy are still controversial in the 'prevention' of pulmonary metastases from osteosarcomas. This paper presents theoretical and experimental evidence in support of such an irradiation. Doses which can be tolerated by the normal lung are recalled. Data from clinical experience is analyzed and the optimal modalities of irradiation are described. Confirmation of the presumptive effectiveness of radiation therapy can be obtained only through controlled trials such as the one which is ongoing at the EORTC. (Author abstract) (19 Refs) (In FRE)

17. SOFT TISSUE SARCOMAS: THE ROLE OF RADIATION THERAPY.

Suit HD
Dept. Radiation Therapy, Harvard Medical Sch., Massachusetts General Hosp., Boston, MA
Hosp Pract; 17(7):114-120 1982

Treatment of soft tissue sarcomas with preoperative moderate dose irradiation and conservative surgery is reported. Location, origin, incidence, growth, symptoms, and clinical evaluation of patients with soft tissue sarcomas are reviewed. Biopsy is the only way to distinguish benign from malignant tumors. An inappropriate biopsy can preclude appropriate definitive treatment. Small lesions, thought to be benign cysts, lipomas, fibromas, or angiomas are removed by excisional biopsy. Larger lesions or those thought to be malignant should undergo incisional biopsy. Histopathologic grading and staging of soft tissue sarcomas is reviewed. Large tumors suspected of being malignant should receive 5,000-6,000 rad over 5-6 wk at a dose of 200 rad/day, 5 days/wk. The first 5,000 rad should include the tumor and its probable extensions into adjacent tissues; the last 500-1,000 rad should be given to the tumor alone. Conservative resection should be performed 2-3 wk later. A booster dose of 1,000-1,500 rad should be given to the tumor bed intraoperatively. Treatment of 52 patients with this method resulted in 6/42 patients with large tumors experiencing local recurrence and 20/52 with large tumors developing distant metastases. Local control was achieved in all patients with small tumors (less than 5 cm). Delayed wound healing occurred in 7/52 patients. (no Refs)

OTHER THERAPEUTIC MODALITIES

18. OSTEOARTICULAR AND INTERCALARY ALLOGRAFT TRANSPLANTATION IN THE MANAGEMENT OF MALIGNANT TUMORS OF BONE.

Mankin HJ, Doppelt SH, Sullivan TR, Tomford WW
Orthopedic Service, Massachusetts General Hosp., Boston, MA, 02114
Cancer; 50(4):613-630 1982

Since 1971, the Orthopedic Service at the Massachusetts General Hospital has treated 106 patients with malignant or aggressive bone tumors by wide resection and replacement with frozen cadaveric allograft. Sixty-one of these patients have been followed for over 2 yr (mean, 4.5 yr), allowing a comprehensive end-results analysis. In 45 patients, mostly with giant-cell tumors or chondrosarcomas, the resection involved the articular end of a long bone and the replacement not only included bone, but glycerolized (to prevent freezing injury) articular cartilage. Ten of the segments were intercalary (bone alone) and 6 involved a combination of bone and a metallic joint prosthesis. Patients were graded as excellent, good, fair, or failure, depending principally on functional capacity. End-results analysis in this group showed that 5 of the 61 patients had either a local recurrence (2) and/or distant metastases (3); in 5 additional patients the limb was amputated or the implant removed, primarily because of infection (total failure rate, 16.5%). Forty-five (73.8%) had successful transplants (graded excellent or good) and were able to live essentially normal lives. Six of the patients (10%) required a brace or cane but three of these patients were able to return to preoperative work activities. Although the operations were arduous and difficult, and despite a high infection rate (13%) and occasional pathologic fractures (10%), the results compare favorably with other techniques used to restore the skeleton following massive segmental resection. In long-term follow-up, the data suggest that if no complications ensue in the first 2 yr, the results are generally quite good and the grafts show no evidence of progressive deterioration with time. (Author abstract) (55 Refs)

MULTIMODAL THERAPY

19. THE INTERGROUP RHABDOMYOSARCOMA STUDY.

Maurer HM, Crist WM, Donaldson M, Gehan A, Hammond D, Hays DM, Heyn R, Lawrence W, Lindberg R, Newton W, Ragab A, Raney RB, Ruymann F, Soule EH, Sutow WW, Tefft M, Wharam M

Dept. Pediatrics, Children's Medical Center, Medical Coll. Virginia, Virginia Commonwealth Univ., Richmond, VA

Cancer Bull; 34(3):108-110 1982

Clinical and therapeutic aspects of treatment strategies for rhabdomyosarcomas of childhood are reviewed. The age distribution of registered patients showed a peak between 1-5 yr, with 70% of patients younger than 10 yr of age at diagnosis. The percentage of each rhabdomyosarcoma subtype was: embryonal 62%; alveolar 16%; botryoidembryonal 8%; pleomorphic 1%; extraosseous Ewing's sarcoma, large cell and small cell types 7%; and small cell mesenchymal sarcoma, type indeterminate 6%. Significant prognostic factors include clinical group, primary site, tumor histology, tumor size, gender (males being unfavorable), lymphocyte count at diagnosis (low count being unfavorable), and recurrence. Postoperative irradiation of the tumor bed was unnecessary for patients who received standard vincristine, dactinomycin, and cyclophosphamide (VAC) chemotherapy for 2 yr after complete resection of a localized tumor (clinical Group I disease). For patients with regional disease grossly resected, but with microscopic evidence of residual disease and/or lymph node involvement or with completely resected regional disease including involved regional nodes (clinical Group II), the combination of vincristine and dactinomycin for 1 yr was just as good as the standard VAC therapy for 2 yr, all patients having received postoperative radiotherapy to the tumor bed. CNS prophylactic irradiation prevented meningeal spread and improved survival in patients with intracranial tumor extension. (22 Refs)

20. LIPOSARCOMA OF THE LEG.

Lehti PM, Moseley HS, Peetz ME, Fletcher WS

Oregon Health Sciences Univ., UHN 3314, 3181 S.W. Sam Jackson Park Road, Portland, Oregon, 97201

Am J Surg; 144(1):44-47 1982

Forty-eight patients with liposarcomas of the leg were reviewed. Patients were treated by three approaches: wide local excision, amputation, and regional hyperthermic perfusion. Deaths from distant metastases occurred at a similar rate in all groups. The local recurrence rate was 43% in the wide excision group and 29% in the amputation group. No perfused patient had a local recurrence. This study demonstrates that hyperthermic regional perfusion and excision are superior to wide excision or amputation in preventing local recurrence for a liposarcoma of the leg and allow salvage of a functional limb. (Author abstract) (23 Refs)

21. OUTCOME OF PATIENTS FAILING ADJUVANT CHEMOTHERAPY FOR OSTEOSARCOMA.

Pratt CB
St. Jude Children's Res. Hosp., Memphis, TN
Cancer Bull; 34(3):100-103 1982

Seventy-seven patients (37 white males, 23 white females, 8 black males, 9 black females, 3-26 yr old, median age at diagnosis 14.5 yr) with osteosarcoma (OS) of an extremity treated initially with appropriate transosseous amputation or joint disarticulation were admitted to two adjuvant chemotherapy protocols. Twenty-six patients were submitted to the OS 72 protocol in which adriamycin (ADM) was given iv on days 1 and 2, cyclophosphamide (CYC) on day 3, and high-dose methotrexate with citrovorum factor rescue (HDMTX-CF) on day 15 of each mo for 10 mo. On the OS 77 protocol, 51 patients received HDMTX-CF beginning approx 5 days after amputation, followed in 2 wk by ADM and CYC. After a 3-wk rest period, the treatment was repeated for 10 courses. Thirteen patients admitted to the OS 72 protocol developed metastases 4-59 mo from diagnosis (median 12 mo); 6 developed metastases during the period of active chemotherapy, and in 7 metastases were detected following completion of chemotherapy. Twenty-one patients admitted to the OS 77 protocol developed metastases 1-40 mo from diagnosis (median 8 mo); in 13 patients metastases were detected during the chemotherapeutic period, and 8 were found to have metastases after completion of planned chemotherapy. One patient from the OS 77 protocol group died following the third treatment with HDMTX-CF. Survival was examined in relation to surgical procedures performed after the detection of metastatic disease. Of the 34 patients who developed metastases, 21 had one or more thoracotomies. Median time to detection of metastasis was shorter in younger individuals with OS, and fewer patients in the 12-15-yr age group developed metastases in comparison with other age groups of treated patients. (21 Refs)

CASE REPORTS

22. PRIMARY KAPOSI'S SARCOMA AND HODGKIN'S DISEASE IN THE SAME LYMPH NODE.

Massarelli G, Tanda F, Denti S
Inst. Morbid Anatomy, Univ. Sassari, Via Matteotti 58, I-07100 Sassari, Italy
Am J Clin Pathol; 78(1):107-111 1982

The occurrence of primary Kaposi's sarcoma in a lymph node affected by Hodgkin's disease is reported. The case concerns a 43-year-old woman with a recurrence of Hodgkin's disease 13 years after its initial diagnosis. In one of four excised supraclavicular nodes a Kaposi's sarcoma was unexpectedly found. The present observation stresses once more that the two diseases are closely related and possibly share the same pathogenesis. (Author abstract) (35 Refs)

23. MALIGNANT FIBROUS HISTIOCYTOMA OF THE MEDIASTINUM.

Chen W, Chan CW, Mok CK
Univ. Dept. Medicine, Queen Mary Hosp., Hong Kong, Hong Kong
Cancer; 50(4):797-800 1982

A patient with malignant fibrous histiocytoma (MFH) of the mediastinum is reported. This is a very unusual site for MFH. Erosion of the thoracic aorta led to the formation of a false aneurysm, which ended fatally with rupture into the left lung. Clinical features of two other reported cases of MFH of the lung are also reviewed. (Author abstract) (12 Refs)

SELECTED REPORTS ON ETIOLOGY AND EPIDEMIOLOGY

24. CYTOMEGALOVIRUS AND KAPOSI'S SARCOMA IN YOUNG HOMOSEXUAL MEN.

Drew WL, Miner RC, Ziegler JL, Gullett JH, Abrams DI, Conant MA, Huang ES, Groundwater JR, Volberding P, Mintz L

Dept. Pathology and Lab. Medicine, Mount Zion Hosp. and Medical Center, P.O. Box 7921, San Francisco, CA, 94120

Lancet; 2(8290):125-127 1982

Ten homosexual men with Kaposi's sarcoma (KS) were studied for evidence of cytomegalovirus (CMV) infection. IgG and IgM antibodies to CMV were detected in nine out of nine and in seven out of nine of these patients, respectively. CMV was recovered from body secretions or peripheral blood of seven patients. Viral cultures of KS tumor biopsy specimens were negative in eight out of eight patients, but CMV RNA was detected by in-situ hybridization in two out of three and CMV antigen(s) by immunofluorescence in six out of nine. Normal tissue specimens from three KS patients were negative for CMV antigen. These observations suggest an association of CMV with KS. (Author abstract) (25 Refs)

25. MORTALITY FROM MESOTHELIOMA OF THE PLEURA DURING 1968-78 IN ENGLAND AND WALES.

Gardner MJ, Acheson ED, Winter PD

Medical Res. Council's Environmental Epidemiology Unit, Univ. Southampton, Southampton General Hosp., Southampton SO9 4XY, England

Br J Cancer; 46(1):81-88 1982

The geographical distribution of mortality from mesothelioma of the pleura during the yr 1968-78 in England and Wales has been studied using extracts from the death records held by the Office of Population Censuses and Surveys. Using the national death rate as standard, Local Authority areas with raised mortality are identified. The patterns are somewhat different for each sex. In men the high-mortality areas are mainly the major ports where shipbuilding and repairing have been concentrated, whereas in women areas where gas masks were manufactured are predominant. In both sexes there are also high death rates on the eastern side of London. Nearly all the areas of high mortality are known to have had a major asbestos-using industry in the past. Over the 11-yr period the annual number of deaths from pleural mesothelioma rose by approx 75%. This marked increase was virtually confined to men, in whom the number of deaths had reached almost 2,000 per annum by 1978. The indications are that the effect of past high exposures, in particular to amphibole asbestos, have not yet reached a peak in terms of mortality. On the other hand imports and usage of amphiboles, particularly crocidolite, have decreased rapidly since the mid-1960s, and dust levels in the working environment have improved even more radically. (Author abstract) (20 Refs)

26. PROGRESS IN OSTEOSARCOMA. CONTRIBUTIONS FROM WATARU W. SUTOW.

Jaffe N
Dept. Pediatrics, Univ. Texas M. D. Anderson Hosp. and Tumor Inst. at Houston, Houston, TX
Cancer Bull; 34(3):97-99 1982

Early research in osteosarcoma (OS), treatment of metastatic OS, and controversial treatment of OS are reviewed. The first rational attempt in OS to promote the use of combination chemotherapy was the substitution of adriamycin for actinomycin-D in the pulse VAC regimen (vincristine, actinomycin-D, and cyclophosphamide) and augmentation of its efficacy with the addition of phenylalanine mustard. With the demonstration that high-dose methotrexate (MTX) was effective in OS, sequential changes in the regimen were introduced. However, the disease-free survival in the first two regimens with MTX was disappointing. The risk of metastases in patients treated with adjuvant chemotherapy was 20% between 12-24 mo, and 5% between 24-36 mo. To prevent premature interpretation of data, follow-up periods in excess of 24 mo were suggested before reporting the results of adjuvant therapy. After 1970, the time interval between diagnosis and the appearance of the first metastasis appeared to be an important prognostic determinant; survival improved significantly from greater than 2% to approx 40%. The best postmetastatic survival occurred in patients with metastases developing after 13 mo, and the worst in those with metastases at diagnosis. The use of high-dose MTX in OS prompted extensive pharmacokinetic and pharmacologic investigations. The duration of tissue exposure to high doses of MTX was an important factor in toxicity. The risk was significantly increased after 10 or more infusions. No differences in pharmacokinetics were reported between patients with or without established tumor burdens. (38 Refs)

AUTHOR INDEX WITH CITATION NUMBERS

Abbatucci JS 16
Abrams DI 24
Acheson ED 25
Battle WE 14
Bellomo AM 5
Bergonzi S 5
Boquist L 6
Borssen B 6
Carlesimo M 7
Chan CW 23
Chen W 23
Chiotasso PJ 2
Conant MA 24
Consalvo C 7
Coopmans de Yol 4
Crist WM 19
De Franco A 7
Denti S 22
Donaldson M 19
Doppelt SH 18
Drew WL 24
Enjoji M 11
Fazio VW 2
Fletcher WS 20
Gardani G 5
Gardner MJ 25
Gattoni F 4
Gehan A 19
Gilardoni L 4
Goldblatt PJ 9
Groundwater JR 24
Gullett JH 24
Guzzon A 5
Hammond D 19
Hays DM 19
Heyn R 19
Horiuchi J 12
Huang ES 24
Hyams DM 10
Iwasaki H 11
Jaffe N 26
Kesselring FO 13
Kikuchi M 11
Kim K 9
Kreicbergs A 6
Larsson SE 6
Lawrence W 19
Lehti PM 20
Levine AS 14
Lindberg R 19
Macchi I 5
Mankin HJ 18
Martinez-Tello 8
Massarelli G 22
Mathew T 1
Maurer HM 19
Mazzoni R 4
Miner RC 24
Mintz L 24
Mok CK 23
Moseley HS 20
Nauert TC 3
Navas-Palacios 8
Nessi R 4
Newton W 19
Okuyama T 12
Ordonez N 3
Paling MR 10
Peetz ME 20
Penn W 13
Pratt CB 21
Priolo F 7
Ragab A 19
Raney RB 19
Rettenmier CW 14
Roberts WC 14
Ruymann F 19
Seibert KA 14
Senn HJ 15
Shibuya H 12
Soule EH 19
Suit HD 17
Sullivan TR 18
Sutow WW 19
Suzuki S 12
Takeda M 12
Takii M 11
Tanda F 22
Tefft M 19
Tomford WW 18
ViagViganotti G 5
Volberding P 24
Waller BF 14
Wharam M 19
Winter PD 25
Ziegler JL 24
Zornoza J 3

☆ U.S. GOVERNMENT PRINTING OFFICE: 1982-381-847:206

NEW ONCOLOGY OVERVIEWS ON CARCINOGENESIS

The following are titles of retrospective bibliographies that contain 100-500 selected abstracts of recent cancer research publications on carcinogenesis topics. Additional Oncology Overview titles are also available for the Cancer Diagnosis and Therapy Series and the Cancer Virology/Immunology/Biology Series; these titles will be announced on separate forms for convenient ordering.

NOTE: To receive up to THREE complimentary copies, check the titles desired and return this entire form to the International Cancer Research Data Bank (ICRDB) Program.*

CARCINOGENESIS SERIES:

☐ The Role of Dietary Nitrate and Nitrite in Human Carcinogenesis (OK-82/01)

☐ Age-Related Factors Which May Predispose to Carcinogenesis (OK-82/02)

☐ DDT and Its Metabolites in Carcinogenesis (OK-82/03)

☐ Polychlorinated Biphenyls and Polybrominated Biphenyls in Carcinogenesis (OK-82/04)

☐ Dioxins and Dibenzofurans in Carcinogenesis (OK-82/05)

☐ Short-Term Test Systems for Potential Mutagens and Carcinogens: II. Mutagenicity in Mammalian Cell Culture (OK-82/06)

☐ Short-Term Test Systems for Potential Mutagens and Carcinogens: III. In Vitro Transformation (OK-82/07)

☐ Short-Term Test Systems for Potential Mutagens and Carcinogens: IV. Unscheduled DNA Synthesis (OK-82/08)

☐ Short-Term Test Systems for Potential Mutagens and Carcinogens: V. In Vivo Tests for Chromosomal Damage (OK 82/09)

☐ Short-Term Test Systems for Potential Mutagens and Carcinogens: VI. In Vitro Tests for Chromosomal Damage (OK-82/10)

☐ Selected Enzyme Markers of Hepatocarcinogenesis: Gamma-Glutamyl Transpeptidase, Glucose-6-Phosphatase, Alkaline Phosphatase, ATPase (OK-82/11)

☐ Naturally Occurring Dietary Carcinogens of Plant Origin (OK-82/12)

☐ Phorbol Ester Action in Cell Culture (OK-82/13)

☐ Mutagens and Carcinogens in Cooked, Smoked, and Charred Foods (OK-82/14)

☐ Neurocarcinogenesis (OK-82/15)

☐ Excision Repair of DNA Damage: I. Enzymology and Mechanisms of Excision Repair (OK-82/16)

☐ The Role of Selected Dietary Factors in Carcinogenesis (OK-82/17)

☐ Excision Repair of DNA Damage: II. Human Genetic Defects in Excision Repair**

☐ Excision Repair of DNA Damage: III. The Regulation of Excision Repair**

☐ Chromatin Alterations Associated with Carcinogenesis**

☐ Methodology in Use for the Assessment of Carcinogenic Risk: I. Chemical Agents**

☐ Methodology in Use for the Assessment of Carcinogenic Risk: II. Radiation**

*Additional titles may be ordered for a small fee from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161, U.S.A.

**In press - expected in early 1983.

Return this entire form to:

The ICRDB Program
National Cancer Institute
Westwood Building
Room 10A18
Bethesda, Maryland 20205

Print clearly. This will be your mailing label.

Name: ______________________________

Address: ______________________________

____

____

NEW ONCOLOGY OVERVIEWS
ON CANCER VIROLOGY/IMMUNOLOGY/BIOLOGY

The following are titles of retrospective bibliographies that contain 100-500 selected abstracts of recent cancer research publications on cancer virology/immunology/biology topics. Additional Oncology Overview titles are also available for the Carcinogenesis Series and the Cancer Diagnosis and Therapy Series; these titles will be announced on separate forms for convenient ordering.

NOTE: To receive up to THREE complimentary copies, check the titles desired and return this entire form to the International Cancer Research Data Bank (ICRDB) Program.*

CANCER VIROLOGY/IMMUNOLOGY/BIOLOGY SERIES:

☐ Chalones (OB-82/01)
☐ Virus Latency and Oncogenesis (OB-82/02)
☐ Cell Hybridization (OB-82/03)
☐ Endogenous Polypeptide Growth Factors (OB-82/04)
☐ Hepatitis B Virus (OB-82/05)
☐ Interferon: Preclinical Studies of Antiviral Activity (OB-82/06)
☐ Liposomes (OB-82/07)
☐ Mechanisms of Resistance to Methotrexate and Other Folate Antagonists (OB-82/08)
☐ Interferon: Preclinical Studies of Anticellular, Antitumor, and Immunomodulatory Activities (OB-82/09)
☐ The Biochemistry of Cancer-Related Collagens (OB-82/10)
☐ The Role of Proteases in Metastasis (OB-82/11)
☐ Monoclonal Antibodies (OB-82/12)
☐ Natural Killer Cells (OB-82/13)
☐ Mitochondrial Respiration in Tumor Cells and Related Systems (OB-82/14)
☐ Tumor-Related Ferritins (OB-82/15)
☐ Reverse Transcriptase**
☐ The Viral Etiology of Cervical Cancer**
☐ Membrane Glycoproteins in Control and Malignant Cells**
☐ Endogenous Oncorna Viruses and Genes**
☐ DNA Viral Transforming Proteins**
☐ Modulation of Cancer by Superoxide Dismutase**
☐ Protein Kinases Associated with Growth, Differentiation, and Transformation**
☐ Non-Histone Proteins in Control and Malignant Cultured Cells**

*Additional titles may be ordered for a small fee from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161, U.S.A.

**In press - expected in early 1983.

Return this entire form to:

The ICRDB Program
National Cancer Institute
Westwood Building
Room 10A18
Bethesda, Maryland 20205

Print clearly. This will be your mailing label.

Name: ____________________

Address: ____________________

____

____

NEW ONCOLOGY OVERVIEWS
ON CANCER DIAGNOSIS AND THERAPY

The following are titles of retrospective bibliographies that contain 100-500 selected abstracts of recent cancer research publications on cancer diagnosis and therapy topics. Additional Oncology Overview titles are also available for the Carcinogenesis Series and the Cancer Virology/Immunology/Biology Series; these titles will be announced on separate forms for convenient ordering.

NOTE: To receive up to THREE complimentary copies, check the titles desired and return this entire form to the International Cancer Research Data Bank (ICRDB) Program.*

CANCER DIAGNOSIS AND THERAPY SERIES:

- ☐ Supportive Care of the Cancer Patient: Management of Infectious and Hematologic Complications (OT-82/01)
- ☐ Treatment of Prostatic Cancer (OT-82/02)
- ☐ Diagnosis and Treatment of Bronchoalveolar Cancer of the Lung (OT-82/03)
- ☐ Intra-Arterial Chemotherapy in Cancer Treatment (OT-82/04)
- ☐ Diagnosis and Treatment of Malignant Pleural Effusions (OT-82/05)
- ☐ Diagnosis and Treatment of Pituitary Tumors (OT-82/06)
- ☐ Diagnosis and Treatment of Renal Cancer (OT-82/07)
- ☐ The Role of Thymic Factors in Cancer (OT-82/08)
- ☐ The Diagnosis and Treatment of Ocular Melanomas (OT-82/09)
- ☐ Diagnosis and Treatment of Pancreatic Cancer (OT-82/10)
- ☐ Treatment of Bladder Cancer (OT-82/11)
- ☐ Diagnosis and Treatment of Hepatocellular Carcinoma (OT-82/12)
- ☐ Oligoleukemia and Other Preleukemic Conditions**
- ☐ Interferon: Clinical Trials and Related Preclinical Research**
- ☐ Diagnosis and Treatment of Gastric Cancer**
- ☐ Diagnosis and Treatment of Pediatric and Adolescent Gynecologic Malignancies**
- ☐ Oncology Nursing**

*Additional titles may be ordered for a small fee from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161, U.S.A.

**In press - expected in early 1983.

Return this entire form to:

The ICRDB Program
National Cancer Institute
Westwood Building
Room 10A18
Bethesda, Maryland 20205

Print clearly. This will be your mailing label.

Name:______________________________

Address:______________________________

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
5285 Port Royal Road
Springfield, Va. 22161

OFFICIAL BUSINESS

Penalty for Private Use, $300

PRINTED MATTER

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-211

THIRD CLASS
BULK RATE

CT-12

NOTICE OF MAILING CHANGE

☐ Check here if you wish to discontinue receiving this publication.

☐ Check here if your address has changed and you wish to continue receiving this publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Computer Support Center
ICRDB Program
IIT Research Institute
10 West 35th Street
Chicago IL. 60616

CANCERGRAMS are distributed for the International Cancer Research Data Bank (ICRDB) by the National Technical Information Service (NTIS). **CANCERGRAMS** are available from NTIS on a standing order basis at $2 each for North American Continent addressees and $3 each for other addressees. An NTIS deposit account is required. For a list of subject categories or other information, please write to:

Subscription Section
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161